



Capital
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Oil Strategy, Explained: Demystifying the Oil Market

Things to Know About the Month that Reshaped the Oil Market

- ***The purpose of this report is not to rehash the recent episode of negative market pricing, but rather to serve as a brief primer for generalists, or a reminder for energy specialists, around the inner workings of the oil market as the financial market converges with the physical market during periods of expiry and physical delivery.***
- WTI prices [plunged](#) by more than \$55/bbl from \$18.27/bbl to settle at -\$37.63/bbl on a single historic day last week. It was a low probability, but not entirely a black swan event. Could such a plunge into negative territory happen again, perhaps for the June WTI contract? Yes, but is it likely to? Not in our view given that financial selling and position squaring is likely to pre-date contract expiry. Major commodity indices and Exchange Traded Funds reconfigured their contract rolls and exposures over recent days. This is all extremely confusing. *In this publication, we highlight the intimate workings of the oil market and attempt to demystify the nuances for market generalists and energy specialists alike.*
- Recent headlines rightfully focus on the recent negative pricing for WTI, a first for a major oil benchmark, but such a dynamic is not a new phenomenon for commodity markets. Negative pricing or paying customers to take energy has long been a phenomenon in the power market given the lack of storage options. In fact, the rise of renewables has made negative pricing increasingly common in certain corners of the world, like Europe. Similarly, commodities that require specialty storage facilities, like natural gas, also have a history of negative pricing. If it were not for flaring, regional basis differentials would likely price below zero more frequently.
- The recent oil price [action](#) is a function of the blitzing pace of [demand destruction](#), leading to a record degree of US inventory builds. The negative pricing reflected the lack of available storage, which left physical barrels stranded as the May contract approached expiry with the physical delivery looming. While storage capacity still exists in various hubs throughout the country, congested pipes and elevated storage levels can ultimately leave barrels trapped without outlets. Oil that is stuck in a region with limited options can lead to disorderly pricing, leaving those holding physical crude scrambling for buyers.
- The -\$37/bbl pricing episode occurred on the penultimate day of trading for the May'20 WTI contract. The volumes were scarce and liquidity played an active role in the price plunge. Given the upcoming expiry, most contracts had already rolled into the June'20 WTI contract. WTI is a physically delivered contract, meaning that holding the May contract into expiry requires an exchange of physical barrels. The market participants exposed to the May contract and directly impacted by the price volatility comprised, relatively speaking, a fairly small group of individuals, but the scarring of such an event has left a profound imprint on investors, physical traders, and oil market participants alike.
- The prospect of flattening COVID curves, re-opening economies, a historic OPEC deal, and US storage levels near peak congestion has given both energy specialists and generalist investors a degree of optimism that appeared absent as recently as several weeks ago. Investors have frequently quoted the “darkest before dawn” analogy over recent days.
- At the same time, unprecedented pricing, extreme volatility, and historic mark to markets have given rise to a new degree of concern. Negative pricing exposed the fear of the unidentified risk or perhaps a risk that was previously not considered. The oil market is a complex spider web of intricate nuances. Certain contracts are physically delivered, others are cash settled. Brent futures expire at the end of every month while WTI contracts settle intra-month. Liquidity is not uniform across contracts or benchmarks. Basis pricing dislocations can expose proxy hedging programs. There is a multitude of ways to express risk or an investment in the energy arena. Physical storage assets often prosper during times of capitulation while investment vehicles such as Exchange Traded Funds are subject to “roll yield”. ***In this publication, we explain oil market concepts ranging from the futures market to fund flow to physical delivery, and among others, we attempt to demystify the storage dynamic.***

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Glossary: We Are Oil Nerds, Here Are Some Terms That We Use

Benchmark – The global oil market has two preeminent benchmarks: West Texas Intermediate (WTI) and Brent. WTI reflects North American fundamentals while Brent reflects global oil fundamentals. WTI is priced and delivered into Cushing, Oklahoma, while Brent is priced off a number of waterborne North Sea crudes.

Chicago Mercantile Exchange – The largest global exchange for trading of futures and options. Given the current environment, the exchange recently raised margin requirements for oil futures contracts—the June contract now requires a margin of \$10,000. CME is owned by the CME Group, which also owns CBOT, NYMEX, and COMEX.

Contract Expiry – Expiry is the final day that a contract trades. Leading into expiry, the holder of the contract must decide whether to liquidate the position and assume a revenue event, or roll the position into another contract month; otherwise, the contract will expire and physical delivery may be required. Brent futures expire at the end of every month while WTI contracts settle intra-month. Certain contracts are physically delivered; others are cash settled. The WTI benchmark is settled with physical delivery while Brent has the option to be physical or cash settled.

Cash Settlement – A contract that is settled financially rather requiring physical delivery.

Physical Settlement – The underlying commodity is physically delivered upon contract expiry at a pre-determined date and location. Each exchange and benchmark has unique specifications. According to the EIA, only about 1% of futures enter into physical delivery.

Exchange Traded Fund (ETF) – An investment vehicle containing a basket of securities that trades on an exchange. Oil ETFs provide investors with exposure to price action in crude oil by holding its underlying futures contracts. As futures contracts approach expiry, ETFs have to roll their futures exposure to next contracts to avoid physical delivery.

Flat Price – Slang for the price for the current commodity contract. The risk associated with trading flat price includes the risk incurred for trading without a hedge, or an offsetting position.

Basis Pricing – The price differential between a region and a major benchmark. For example, barrels produced in the Permian are subject to the location risk between Midland and WTI.

Forward Curve – The forward curve, often referred to as the futures curve or term structure, is a compilation of monthly futures contracts. The relative value of the contract months refers to the difference between the spot pricing and different maturities into the future. The price differential between month-to-month contracts, in the purest form, reflects the cost of storage. Backwardation and contango refer to two different types of market conditions pertaining to the forward curve and serve as real-time gauges of supply and demand.

Futures Contract – A financial exchange traded derivative contract that requires the holder of the contract to purchase a predetermined amount of the underlying commodity at a specified price and date. One oil contract equates to 1,000 barrels of oil. The futures market is regulated by the Commodity Futures Trading Commission (CFTC).

Hedging – Derivatives utilized by corporates and investors to manage price volatility. For example, producer companies utilize hedging strategies as a form of insurance by locking in future pricing at a predetermined tenor and volume. Popular hedging strategies include fixed price swaps, costless collars, and three-way collars.

Roll Yield – The financial gain or loss incurred when an investor closes out a certain contract (typically the spot contract) and re-establishes a position in another contract further along the curve. When the market is backwardated, the roll yield is positive since the trader sells a higher-priced contract and rolls into a contract further out the curve at a lower price. The opposite is true for a market in contango, a condition meaning that investors are subject to “negative roll yield”, which includes selling a lower-priced contract and rolling into a more expensive dated contract.

Strategic Petroleum Reserve – A deposit of government-held inventories typically used during major disruptions to global supply. The International Energy Agency comprises 29 member countries, all of which are required to hold reserves equal to no less than 90 days of import cover when measured against net imports from the previous year. The purpose of the reserve is to have the means to meet demand in the case of supply disruptions. The US SPR include a maximum drawdown rate of 4.4 mb/d with a 13-day delivery window from the time of a US Presidential decision.

Storage – Oil is stored in underground caverns or floating roof tanks across the world. The largest storage facilities are typically centered around major production or demand areas as well as key transit points.

Floating Storage – Floating storage is the act of storing barrels of oil on ships, such as VLCCs, at sea, without a scheduled destination or timeline for delivery. Seldom used, floating storage is the most expensive form of oil storage available to market.

The WTI contract is physically settled, whereas the Brent contract can be financially settled or delivered physically

The forward curve is not a forecast, but rather serves as the price for which market participants can buy or sell oil today, for future delivery

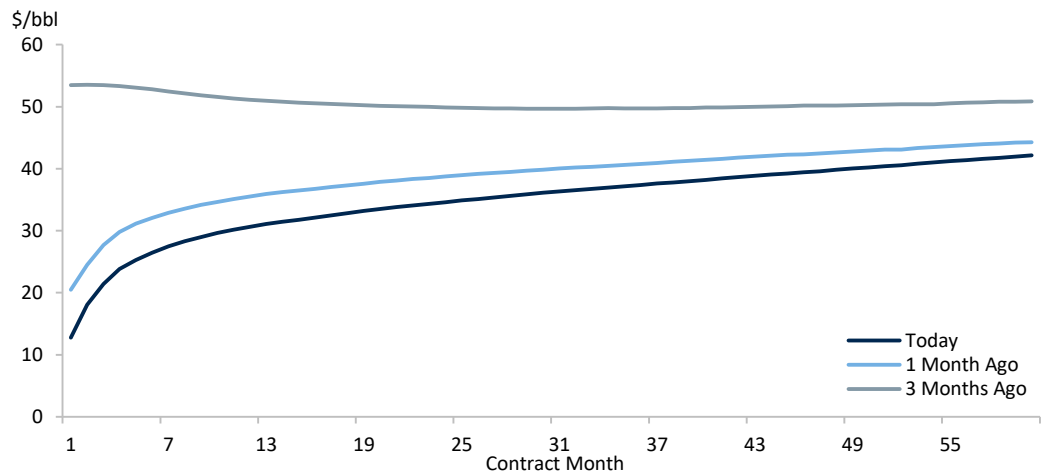
The Structure of Oil Futures Contracts

Crude oil futures, and any other commodity for that matter, set prices on an individual monthly contract basis rather than the continuous pricing framework seen in many other markets, such as equities. Commodity markets are structured in a way such that each contract month has its own set price, unique volume, and different settlement dates. The amalgamation of the monthly futures contracts comprises the forward curve. In the case of the Brent benchmark, contracts expire at the close of the last business day of each month, while the WTI contract expires intra-month.

Commodity futures are exchange traded derivative financial contracts that obligate the buyer of the contract to purchase a predetermined amount of the underlying commodity at a specified price and date. For example, the NYMEX WTI Crude Oil futures contract puts the obligation on the purchaser to take physical delivery of 1,000 barrels of WTI crude oil in Cushing, Oklahoma (the pricing and delivery point for WTI). This futures contract trades on the New York Mercantile Exchange and settles three business days prior to the 25th calendar day of the month prior to the named contract month. For example, the June 2020 WTI contract expires on May 19. This means that the last trade occurs ahead of the close of business on May 19, which sets the price for barrels to be physically delivered from June 1 through June 30.

Meanwhile, trading in the ICE Brent Crude Oil futures contract ceases on the last business day of the second month preceding the contract month. Although the ICE Brent Crude Oil contract is a physically deliverable contract, it has the option to be cash settled, whereby the buyer and seller have the option to transfer the cash amount owed based on the difference between spot and contract price or physically deliver the barrels. Amidst the current oil storage scarcity issue plaguing the US, this added flexibility in the Brent contract helps to explain why WTI has an inherently greater risk of negative pricing relative to Brent. The amalgamation of the monthly futures contracts currently trading in the market comprises the futures, or forward, curve. To be clear, the forward curve is not a forecast for future pricing. Instead, it reflects where market participants can buy or sell a barrel of oil today for delivery into the future. The June and December crude contracts are typically the most liquid for any calendar year along the futures curve.

Figure 1: WTI Forward Curve Evolution



Source: RBC Capital Markets, Bloomberg

Oil's Forward Curve – A Brief History

The forward curve is not a predictor of future oil prices. Visibility into the back end of the curve does little to indicate where future spot prices will trade given that the market will continue to weave between phases of contango and backwardation as warranted by physical and financial forces. In fact, the curve has ebbed and flowed through four distinct cycles over recent decades, attempting each time to anchor near the marginal cost of future production.

First Cycle: Prior to 2004. Historically speaking, until the mid-2000s, oil prices would cycle through periods of contango and backwardation. Regardless of whether spot barrels priced at \$15/bbl or \$25/bbl, the forward curve was anchored near the \$20/bbl mark, which was, at the time, largely recognized as the marginal cost of producing a barrel of oil, globally.

Second Cycle: 2004–09. In what was uncharted territory at the time, long-term oil prices became unmoored from the \$20/bbl level and the entire forward curve shifted higher alongside spot prices during the mid-2000s as peak oil fears ravaged the market and altered the perception of where the market should be pricing long-term oil. In other words, when the front end of the forward curve moved, the entire curve moved along with it. Simply put, the market was constantly contemplating the marginal cost of future production.

Third Cycle: 2010–14. Order was restored to the forward curve at the turn of this decade as dated prices became anchored once again, this time to the \$70–80/bbl mark, which at the time was thought to be the cost of marginal barrels from various unconventional sources.

Fourth Cycle: 2015 to present. The oil price volatility of the last several years is only the second cycle seen over the prior two decades to significantly unfasten the dated portion of the forward curve from the previous cycle. Over the last half-decade, the entire forward curve shifted lower in anticipation of searching for the future marginal cost of a barrel of oil. While the latest episode has yet to play out, the term portion of the forward curve has trended from the \$45–55/bbl range, levels loosely economical for US shale, down to current levels of \$35–45/bbl. The forward curve is pricing below shale economics to incentivize production shut-ins given the global oversupply. Given the ongoing [rebalancing](#) act, we anticipate that the forward curve will shift higher later this year and into next year back into the mid-\$40/bbl market to reflect marginal cost of the barrel.

Figure 2: WTI Spot Price and Forward Curve*



Source: RBC Capital Markets, Bloomberg *Forward strip as of Jan 1 of each year, with the exception of the latest strip, which was priced as of yesterday

In the purest form, the difference between monthly pricing is the cost of storage, or parking a barrel for a month

Crude is physically delivered into Cushing, OK, which is the North American oil pricing hub

Storage at Cushing is privately owned and operated, meaning that contracts are negotiated on a bespoke basis

The Forward Curve and the Cost of Storage

The oil forward curve is a compilation of monthly futures contracts. The relative value of the contract months refers to the difference between the spot, or front month, pricing and different maturities into the future. The price differential between contracts, in the purest form, reflects the cost of regional storage. Backwardation and contango in commodity markets refer to two different types of market conditions pertaining to the forward curve and serve as real-time gauges of supply and demand. Backwardation occurs in a bull market when physical oil balances are tight, meaning that the near-term contracts are priced higher than longer-term contracts. The difference month by month is often referred to by market participants as time spreads. The opposite is true in a contango-based market. For example, in a deeply oversupplied market, the price of a commodity typically falls compared to term pricing as stockpiles increase. As storage availability becomes increasingly scarce, as is the case currently, the contango widens as market participants bid for storage capacity. In short, as storage approaches capacity, the contango widens as the cost of storage prices at a premium. For example, the time spread or the front contango between the Jun'20 and the Jul'20 contract is pricing at -\$5.40/bbl. Given the lack of storage options, current pricing suggests that the market is willing to pay the time spread to hold a barrel in storage for the month of June.

Cushing, Oklahoma: America's Storage Hub

The US houses nearly 600 mb worth of commercial onshore crude storage capacity. The NYMEX WTI futures contract specifies that, upon contract expiry, physical delivery of the underlying barrels be made at Cushing, Oklahoma. The self-declared "Pipeline Crossroads of the World", Cushing is the pre-eminent crude oil storage center in the US given that it is the physical pricing hub for WTI. However, with capacity near 75 mb, there is currently little room remaining before storage congestion is challenged at the 15-terminal storage facility. And, while tanks are not yet full, much of the remaining capacity is fully leased in advance, as demand destruction has left physical players scrambling for availability to park a barrel. Storage facilities are owned by the private sector and contracts are struck on a bespoke basis with respect to volume, price, and tenor. Under normalized conditions, storage operators typically charge 25¢/bbl to 35¢/bbl for monthly storage. Rates more than doubled by mid-March and industry sources indicate that remaining storage capacity is accounted for, struck at unspecified prices. For example, a hotel may appear vacant, but pre-arranged reservations have the rooms fully booked for the evening. In the event that a small handful of rooms remains, scarce availability comes with a larger price tag than under normal utilization.

Figure 3: Oil Backwardation/Contango Example

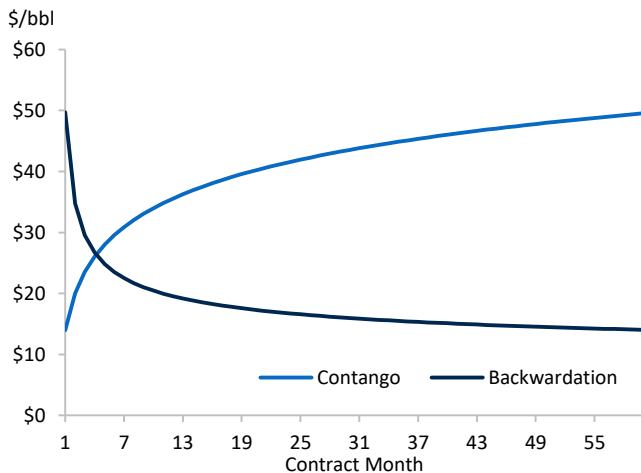
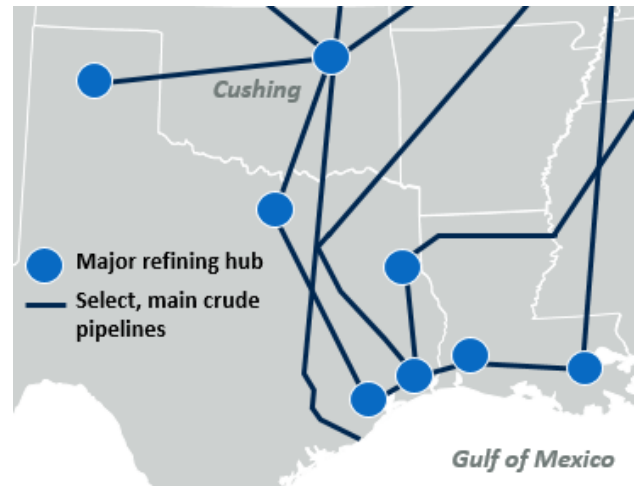


Figure 4: Cushing Storage and Gulf Coast Map



Source: RBC Capital Markets, Bloomberg, EIA, company and government sources

Despite the newsflow, true floating storage is a rare occurrence

Floating storage is the most expensive way to store a barrel

Global Floating Storage Economics

The widening term structure, or growing contango, is an indication that onshore storage is challenged. North American crude storage has become increasingly scarce to the point that those holding physical barrels may revert to storing barrels on ships, on the water, to store crude. The concept of floating storage gathers steam often when contango starts to widen, but the economics of floating storage are complex. For starters, wide-scale floating storage has only occurred a small handful of times in the past. The news flow and talk around floating storage dramatically overshadows the number of times that such a practice has occurred, historically. Second, parking a barrel on a tanker is the most expensive form of storage globally, by a longshot.

In theory, the 813 Very Large Crude Carriers (VLCC) available worldwide, each with the capacity to hold 2 mb, could house 1.6 billion barrels worth of crude inventories. Put simply, the world is not running out of places to park a barrel, but the cost of doing so may come at an increasing price tag. The cost of storing barrels via ship is a dynamic, moving target and subject to global freight rates. VLCCs are chartered on an individual broker basis and prices vary by both owner and geographical region. The current time charter day rates are near \$110,000 per day, implying a monthly floating storage cost of carry of \$1.67/bbl. This price is net of insurance, port charges, and bunker costs, which are estimated to add 20–25¢/bbl per month. This implies that a \$1.87/bbl contango is required for every contract month in order to break even. Further, tankers for storage purposes are not used for a month or two. In order to charter a tanker for storage economically, the view must be that contango will persist for four to six months or longer. In other words, there needs to be visibility indicating that the contango will average north of \$11.25/bbl over a six-month period just to break even. This suggests that the \$8.80/bbl WTI contango over the six-month span starting next month deems floating storage currently uneconomic. Shipping brokers could cut sweetheart deals if tankers would otherwise be underutilized, but our view is that the term structure has to widen further in order for a profitable trade given current market conditions.

Figure 5: Spot WTI Contract Volumes

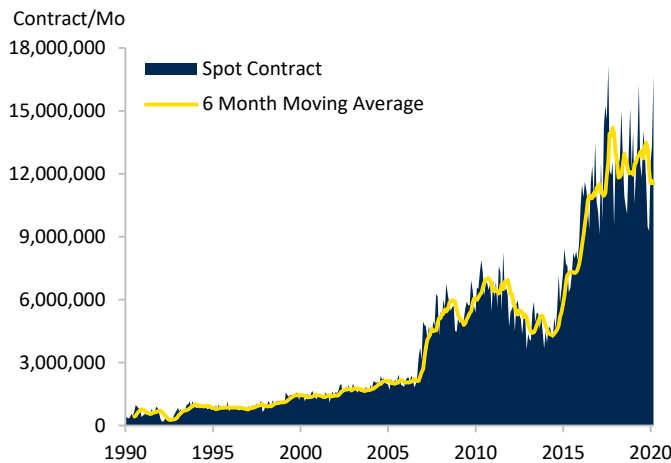
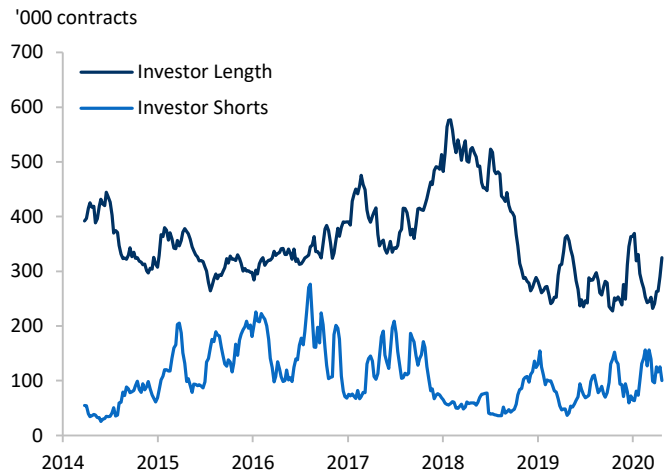


Figure 6: WTI Managed Money Futures and Options Positioning



Source: RBC Capital Markets, Bloomberg, CFTC

Term Structure and Relative Value Trading

In addition to the cost of storage, the shape of the futures curve can also reflect positioning from investors and other oil market participants such as oil producers and consumers utilizing the forward curve to manage current and future price risk (see “Hedging Oil Price Risk” section on page 7). Similarly, investor flow can have a material impact on curve shape.



Term structure trades, or time spreads, are the most popular way for commodity traders to express a view

Commodity traders can express risk in several ways. Namely, market participants can invest in various index-based products that typically include a basket of commodities. Otherwise, investors often enter into paired, or relative value trades. Such risk is often expressed between products, such as gasoline versus crude, a pricing differential between various crude qualities, but often, the most popular trade is a time spread, or a relative value trade along the term structure. A bearish market participant could sell the near-dated WTI contract and hedge the risk by buying a WTI contract month further along the curve. For example, selling the June contract and buying the December contract is not only a popular time-spread trade at the moment given the oversupply in the market, but the June and December contracts are also typically among the most liquid on the board.

Alongside spot pricing, June and December are typically the most liquid contract months, for any contract along the forward curve

Such a trade could exacerbate the contango, or the pricing spread between the two contracts at various tenors. Alternatively, buying a liquid contract like the near-dated Jun'20 contract while selling the subsequent Jun'21 would be a call on near-term supply and demand balances shifting near-term bullish relative to next summer. Liquidity has evolved alongside oil markets over recent years. Volumes traded have improved for the front end of the curve, or the near-dated contracts, but the opposite can be said for further out into the term contracts. As such, most of the term structure trades focus on the 6- to 18-month portion of the forward curve rather than the less liquid dated contracts.

The Evolution of Oil Market Liquidity

A major shift in oil market participants over recent years has reshaped liquidity throughout the term structure. The evolution of participants comprising the oil market has changed the way we think about liquidity, particularly in the dated portion of the forward curve. Deteriorating liquidity means that price discovery has worsened.

Liquidity is not an issue until it comes time to execute trades. Traders mark curves at the close of each trading session. This involves setting a mid-price, between the bid and offer for contracts throughout the term. The concern is that the curves are marked in the same fashion for highly liquid, near-dated contracts as for thinly traded distant term contracts. In other words, the dated portion of the forward curve often reflects non-transaction focused pricing or what we have coined "phantom liquidity".

The rise of algos and quant funds has shifted liquidity toward the front end of the forward curve

Poor liquidity means that realized live pricing can air pocket in either direction come execution time. While liquidity is often nebulous, poor price discovery has tangible outsized implications for how we think about the next market cycle and how investment decisions are made for many global projects. In simple terms, pricing throughout the dated portion of the forward curve is non-transactional, but tangible decisions on future investment are made based on faulty term pricing. *For more, see our note [Phantom Liquidity & Implications for the Next Cycle](#).*

Hedging Oil Price Risk

Hedging is a risk management tool for oil producers, consumers, and investors to manage the risk of adverse price swings. Hedging, which is the act of locking in a price to buy or sell oil, among other commodities and assets, in the future, can be conducted financially or physically. Risk management teams typically make use of derivatives such as futures and options to hedge price risk, smooth cash flows, and stomp out volatility. Largely, oil producers utilize hedging strategies as a form of insurance. For example, an oil producer concerned about a potential drop in prices can sell oil futures to lock in a price at a predetermined level and future tenor. For example, many US independent producers have, over recent years, hedged production, often in the 30% to 50% of output range and the forward 12- to 24-month strip north of \$50/bbl for WTI. This ensures cash flow certainty for a significant portion of production even in the event that oil prices plunge below operational break-even costs near \$40/bbl.

Methodical hedging programs have proved invaluable during periods of market volatility

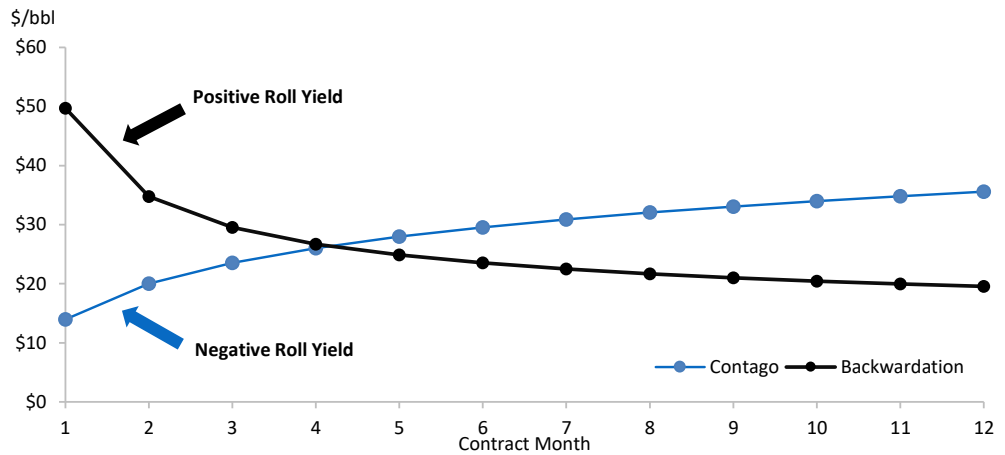
Fixed price swaps, costless collars, and three-way collars are strategies that both oil producers and consumers can utilize to hedge future price risk

Downward hedging pressure from oil producers has often resulted in a put skew, or a relative premium for put options relative to calls

Many producers have price protection on for the current 2020 calendar year, but hedge ratios are thin for 2021 and beyond. Intermittent and often chunky downward producer hedging pressure can play an important role in keeping a cap on prices as markets rally. While North American independent oil producers are heavy hedgers, global majors and integrated companies seldom hedge. Risk management among National Oil Companies is even less frequent, but methodical, consistent, and structured programs can bear a significant amount of fruit during periods of volatile pricing. Mexico, with its strong hedging program, was an obstacle in the recent OPEC+ discussions earlier this month given that its systematic and disciplined hedging program meant that PEMEX had already locked in profitable prices at a time when its competitors faced current conditions with prices trading at and near multi-decade lows.

The downfall of hedging is that it involves the initial outlay cost as well as the opportunity cost. The cost of buying a put option to protect against downside price volatility can be costly, while fixed price swaps mean that oil producers are leaving money on the table during a rallying market. Costless collars, which involve buying a put option and selling the corresponding call option to assume a costless structure, have been a popular hedging instrument to protect against downside risk while also providing a floating range that allows producers to capture upside without a material capital outlay. Given such a structure, the oil producer will be protected below the put price, but rallies will be capped by the call strike that was sold. To enhance or expand the range of the collar, producers may also write a further out of the money put option. Such a structure is referred to as the three-way collar. The downside to this strategy is that it can leave producers exposed if prices decline below the sold put strike. For example, when crude prices fell precipitously this spring, North American producers who achieved a \$50–65/bbl rangebound collar by selling a downside \$45 put option became fully exposed as prices plunged below the lower strike option.

Figure 7: Monthly Roll Yield, Explained



Source: RBC Capital Markets, Bloomberg

Oil Options and Put Skew

Similar to derivatives in other markets, oil options provide the buyer with the optionality, but not the obligation, to buy or sell crude oil at a specific price. A call option allows the holder to purchase crude oil at a specific price within a specified timeframe while the put option allows the holder to sell crude oil at a predetermined price within a certain tenor. When referring to the value of an option, traders use the term “vol” to refer to its implied volatility, which is an indication of the market’s view on the likelihood of changes in crude oil price over a specified timeframe. An option with a higher implied volatility will have higher premiums. Similar to the

Retail and institutional investors have often turned to commodity ETFs as a means of increasing exposure to the asset class as well as hedging inflation

Roll yield is the risk exposure incurred by moving from one contract to another as contract expiry nears

Roll yield is positive during periods of backwardation and negative during episodes of contango

futures curve, the amalgamation of the options contracts currently trading with varying expiries helps derive the volatility surface. Given that most hedgers of crude oil are inherently long crude oil, or oil producers focused on downside price protection, put options have historically traded at a relative vol or price premium relative to call options. Traders refer to this as the put skew. Often, not only do large producer hedging programs apply downward pressure on the futures curve, but put skew also increases during periods of heavy producer hedging. Simply put, options skew can provide indication of market direction or, at a minimum, positioning ahead of directional price moves.

Exchange Traded Funds, Explained

An exchange-traded fund (ETF) is a basket of securities that trades on an exchange. Oil ETFs provide investors with exposure to crude oil by holding the underlying futures contracts. For example, the United States Oil Fund (USO), the largest crude oil ETF by assets under management, currently has 26% asset weighting in the Jul'20 (next) month and 15% weighting in both the third and fourth month futures contract with additional exposure further along the forward curve. Commodity ETFs have often been popular with retail and institutional investors alike given that many market participants use exposure to oil and commodities as an inflation hedge. As futures contracts approach expiry, ETFs roll their futures exposure to forward-looking contracts to avoid physical delivery. Given the sheer size of commodity ETFs, the market must absorb the downward pressure on the front-month contract as term contracts see increased exposure. This is why index roll dates are important given that fund flow can impact term structure.

Figure 8: Top 10 Commodity ETFs by Assets Under Management

Rank	Name	Ticker	30D Vol	Fund Assets (mIn USD)	YTD Return (%)	YTD Class Flow (mIn USD)
1	SPDR Gold Shares	GLD US	14979600	57784.9	13.0581	8344.911
2	iShares Gold Trust	IAU US	28901300	23197.4	13.3103	3272.21
3	iShares Silver Trust	SLV US	28955700	6274.78	-14.8081	698.9332
4	United States Oil Fund LP	USO US	233759000	3082.86	-82.904	5982.456
5	SPDR Gold MiniShares Trust	GLDM US	3103800	2056.33	13.2761	738.8416
6	Aberdeen Standard Physical Gold	SGOL US	2349230	1769.08	13.1327	405.6253
7	Invesco Optimum Yield Diversified	PDBC US	4827320	1710.43	-32.186	662.2208
8	Graniteshares Gold Trust	BAR US	709794	872.937	13.1483	193.7904
9	Invesco DB Commodity Index Tracking	DBC US	1806470	735.932	-34.1693	-267.4924
10	Aberdeen Standard Physical Platinum	PPLT US	185525	578.044	-20.7302	3.79689

Source: RBC Capital Markets, Bloomberg

The contango term structure means that future crude contracts are more expensive than near-term contracts. This means the index roll consists of selling cheaper contracts and buying the more expensive forward-looking contracts, a concept known as negative roll yield. If negative roll yields persists, asset value will decrease, meaning that ETFs will roll into fewer forward-looking contracts.

The opposite is true in a backwardated market when the monthly index roll involves selling out of a higher-priced contract into a cheaper contract, a phenomenon known as positive roll yield. Crude oil funds have changed their investment policy multiple times in the last couple of weeks due to widening contango, expensive roll yields, and unprecedented volatility at the front of the futures curve in April. In other words, passive funds have had to be managed more actively. For example, USO mentions in its prospectus that “the specific Oil Futures Contracts purchased depend on various factors, including a judgment by USCF.” In fact, given the historic degree of market volatility, funds are keeping an elevated amount of AUM in cash in order to



Oil market participants have evolved over time; many different investment vehicles also emerged

Sentiment may ebb and flow alongside price volatility, but understanding the inner workings of the market will always prove fruitful given the global and physical nature of the commodity

satisfy potential margin requirements while increasing exposure to the back of curve, wherein the market believes demand will pick up and storage utilization reverts to a more normalized state. Given that such funds control a large share of the front crude oil futures traded (ex. USO had 31% of Jun'20 open interest on April 22 before CME instructed it to not exceed "accountability levels"), they have been rolling earlier than normal in order to avoid negative price action due to heavy selling at the front of the curve from their competitors.

The Evolving World of Oil Market Participants

Participants in the oil market trading community have changed drastically over recent years. Instability around the 2008 Financial Crisis followed by several years of elevated oil prices meant that many energy traders made out exceptionally well while others were forced to liquidate their funds in the early to middle part of the last decade. The shrinking pool of pure-play commodity hedge funds coincided with a period in which several major investment banks exited the commodity trading space. Volumes traded dipped early this decade, but the void due to fewer career energy participants was quickly filled by the rise of algorithmically driven funds or black boxes. The liquidity gap was further backfilled by industry generalists who trade a broad macro basket. For an oil industry that has, historically, traded in physical fashion, the market has become increasingly financialized.

A growing portion of the trading community is becoming increasingly headline-focused rather than fundamentally counting the barrels. The media angle has, at times, become increasingly influential in shaping sentiment than the raw data often is. Financial volumes crossing hands today are seven times higher than was the case a decade ago. Put simply, the sheer volume of paper contracts being traded is occurring at a higher notional level, turning over at a faster pace by a growing number of traders who have been increasingly headline-driven than previously was the case.

Unearthing gems from deep-dive, intellectually rigorous fundamental analysis can often lead one to arrive early on a market call. Being early has historically allowed traders to properly position for a view to run its course, but in today's market, one must often be able to endure the extreme price gyrations before the view materializes. This is because prices can dislocate from market fundamentals for seemingly larger stretches of time than historically has been the case. There is no silver bullet to rectify the structural change in the market, but keen awareness of the inner workings of the physical oil market will always be an edge, in any oil market era.

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