Under the Hood of Commodity ETFs

In the May edition of the *Insights and Strategies*, we discussed several ways to gain exposure to physical gold through exchange-traded products. In this edition, we turn to commodity exposure in general, with an emphasis on the importance of how commodities trade in an ETF. The managed money space can provide a great opportunity to invest in commodity markets that have long been accessible only to the largest institutional investors. ETFs now provide exposure to not only precious metals, but physical commodities such crude oil, natural gas, and uranium. After making the decision to invest in a commodity, it is crucial to understand how an ETF gains its exposure.

Most commodity ETFs are passive and must follow a set of rules to track a benchmark. In certain cases, the ETF will own the physical commodity and include the storage cost as a part of its management expense ratio (MER). This works when storage of the commodity is simple and cost effective, for example storing gold or silver bullion in a vault at the mint or bank. On the other hand, storing commodities such as barrels of crude oil can be costly and logistically complex. Instead, many commodity ETFs use futures contracts to get exposure to the spot price of the underlying commodity. Depending on what rules the ETF employs when purchasing futures contracts, the return profile for investors can vary significantly from the commodity itself.

Futures 101

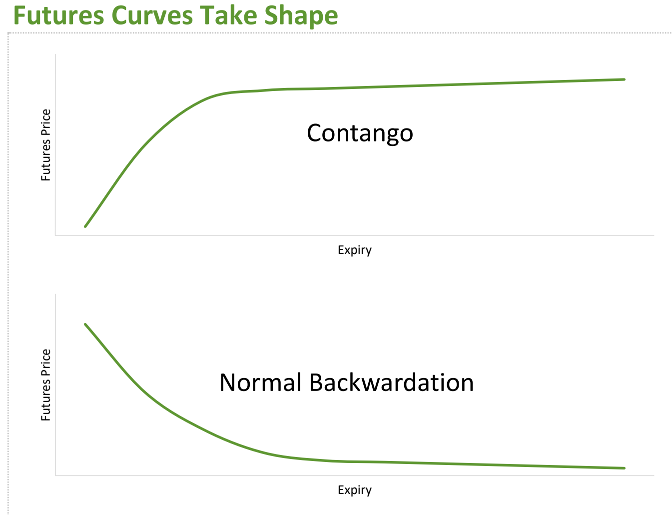
A futures contract is an obligation to buy or sell an asset in the future with the quantity, price and delivery date all specified. A textbook example is as follows; a wheat farmer will be selling bushels of wheat at harvest, but the farmer wants to know what price they will receive today. To do this, the farmer sells futures contracts for their wheat, locking in a price. As an investor, you might want to speculate of the future price of wheat. You buy the farmer's future supply of wheat taking on the price risk. It could go up or down. Holding a futures contract to its expiration date would trigger an obligation to take delivery of the underlying asset at the given price. To avoid the logistical nightmare, most investors sell their contract prior to expiration using the proceeds to buy another contract that expires further down the road. This is known as "rolling" and can be positive or negative depending on whether the contracts being purchased are more expensive (contango) or less expensive (backwardation) than the contracts being sold.

Contango and Backwardation – What Does It Mean?

The chart below shows a futures curve, a series of futures contracts with price on the y-axis and maturity on the x-axis. If the prices of the commodity were more expensive in the future than it is today, we would say the market is in contango. Contango is a natural state for markets given storage costs, delivery, and insurance associated with the commodity. Markets can also be in a state of backwardation. This is where it is cheaper to buy something in the future than today. Typically, this occurs when the current supply of a good is limited and people will pay more today than they would in the future. For example, the scarcity of N95 masks in March 2020 drove up their price versus what someone would be willing to pay to receive the mask in two years time.

ETFs tracking commodities need to roll into the next set of contracts to avoid physical delivery of the assets. If the commodity is in contango, you need to pay more each time the contact rolls to maintain the same exposure to the commodity. Persistent negative roll yield will eat away at your principle investment over time. On the flip side, if your chosen commodity remains in backwardation, you get paid a premium every time the contract rolls to maintain the same exposure.

Futures Curves Take Shape



Source: Raymond James Ltd.

Curves Matter

Determining the shape of the futures curve can be complex but there are some simple rules investors can follow. First, contango has a negative effect and backwardation a positive one when it comes to these ETFs. Second, know how often (and when) the underlying contracts for the commodity rolls into the new ones. Is it daily, weekly or every few months? The more frequently you expose your investment to contango, the

Oil ETFs

Name	Ticker	MER	Roll Frequency	Roll Strategy	Correlation with Spot WTI			
					1 Year	6 Month	3 Month	30 Day
United States Oil Fund ETF	USO-US	0.79%	Monthly	Predominantly near month; now have the ability to roll into further out contracts	0.44	0.44	0.82	0.96
Invesco DB Oil Fund ETF	DBO-US	0.78%	Monthly	Rules based approach to identify the most attractive contract between 1 &13 months	0.32	0.32	0.64	0.93
Horizons Crude Oil ETF	HUC-TO	0.88%	Annually	Only December contracts, rolled in June	0.35	0.36	0.66	0.86

Source: Raymond James Ltd., FactSet; Data as of August 31, 2020
All trade in $USD; HUC-TO is hedged to $CAD

more costly it will be to maintain your exposure. If your ETF rolls its contracts daily, this can compound into significant losses over time regardless of what the commodity does.

Products with a daily roll are not suitable for long-term investors; rather, they are suitable for speculating on intra-day market moves.

Looking At Existing ETF Structures

Many will remember when oil traded into negative territory early this year. While there were many factors at work, in part it was due to the largest oil ETF in the world and the rules it had to follow. **United States Oil Fund ETF (USO-US)** rolled over its future contacts to the nearest month's futures contract. For example, toward the end of May the fund would sell its May-expiry futures contracts and purchase June expiration contracts, and so on. This became problematic this spring when a precipitous sell-off in oil markets caused the near-month futures contracts for WTI crude oil to go negative (a topic deserving of its own publication). The fund rewrote its own rulebook following negative oil prices to allow it to roll some contracts into further months out (i.e. they do not need to be forced buyers in a negative marketplace). Other commodity ETFs employ different structures in an attempt to reduce negative roll. **Invesco DB Oil Fund ETF (DBO-US)** uses a rules-based approach to roll its expiring contracts into the most attractive contract that expires within the next 13 months. Canadian-based **Horizons Crude Oil ETF (HUC-TO)** takes a different approach by exclusively gaining exposure to crude oil futures contracts that expire in December as these are often the most liquid contracts while rolling its contracts only once a year in June. HUC therefore could be a more appropriate, longer-term holding versus its aforementioned peers.

Putting It All Together

Investors have never had more choices when it comes to gaining exposure to commodities than they do today. Adding commodities to your portfolio can be a great tactical decision for investors, but we implore those seeking this exposure to be mindful of the structural choices that may cause their investment to deviate from spot prices. As with any investment, understanding how it fits into your overall and long-term plan is critical. Any commodity ETFs that roll their exposure on a daily basis, for example, are simply are not suitable for long-term asset allocators, but rather are trading tools. As with any investment decision, it is prudent to review the prospectus documentation to gain a more thorough understanding of how the fund should behave relative to spot prices.

Chris Antony, CFA
FX and Fixed Income

Spencer Barnes, MSc., CIM
AVP, Mutual Funds & ETF Strategy

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