

An Ugly Side to Some Commodity ETFs

Contango can hurt the returns of ETFs that hold commodity futures.

Commodity ETFs have exploded in the past couple of years as commodity prices boomed, busted, and now seem ready to boom again as global demand picks up. As part of a long-term allocation, commodities helped smooth portfolio returns from equities in the past, which has also pushed more investors into this unfamiliar territory in an attempt to get greater diversification and avoid another disaster like 2008. Unfortunately, as with every other hot product, we have begun to see an ugly side to some of these ETFs. This primer will walk through what has caused some of the recent poor performance and how to avoid it in the future.

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Two Basic Flavors

Commodity ETFs and ETNs come in two basic flavors. A handful of funds such as SPDR Gold Shares GLD, iShares Silver Trust SLV, and ETFS Silver Trust SIVR, track the spot prices of their commodities, which are the market prices for immediate delivery. These ETFs can track the spot prices because they hold large stockpiles of the underlying commodity. If they need to redeem shares, they can sell off the gold or silver at spot prices to meet redemptions. Unfortunately, gold and silver, along with the other expensive metals such as palladium and platinum, are some of the only commodities that can be tracked in this manner.

Agricultural commodities would perish if stockpiled. Industrial metals such as nickel and copper would take up far too much warehouse space, making their storage costs prohibitive. As for energy commodities, just try and store \$1 billion of natural gas at \$3.50 per thousand cubic feet. You would need more storage space than 4,700 Minnesota Metrodomes (or for our international readers, more than 2,000 new Wembley Stadiums) to hold it! A billion dollars worth of far more valuable crude oil, which currently trades around \$60 per barrel, would require eight of the largest supertankers to store. Clearly, these other commodities require a less direct method of investment.

Instead of directly buying oil, corn, natural gas, or aluminum, ETFs that track these commodities use derivatives. In particular, they track futures prices for those commodities. These futures are contracts that promise to deliver the underlying commodity for a specific price at a specified time in the future, and they trade on major exchanges for a variety of possible delivery dates.

Changes in the futures prices do not perfectly match those of the spot price, but typically provide a good proxy. If futures prices rise too far above the spot, commodity producers will sell at the futures prices and hold their production back from the current market, pushing them back into balance. Unfortunately, this arbitrage mechanism can sometimes fail investors in commodity futures.

Backwardation and Contango

The prices of futures contracts relative to the current market price exert a heavy influence on the returns of commodity investments for anyone who does not produce or physically store the commodity. Futures traders have coined two terms that describe the possible price breakdowns of a given commodity market: backwardation and contango.

When a market is in backwardation, the commodity futures sell for a lower price than the current market price. In general, it also describes a state of affairs where futures prices go lower as the expiration dates move further out. For example, soybean futures for September 2009 delivery currently sell at \$9.90 per bushel. The futures for March 2010 delivery sell for \$9.60 per bushel and the September 2010 delivery contracts sell for \$9.30 per bushel. Buying a bushel of soybeans further and further out in time costs less money, possibly because we are providing insurance for soybean producers who will accept lower future prices in exchange for greater certainty. When we hold a futures position, the price for a given contract approaches the spot price of the commodity as our delivery date gets closer.

For investors who buy futures rather than the physical commodity, a commodity in backwardation provides better returns over time through something called the "roll yield." Let's continue using the soybeans example.

Assume that you buy contracts to receive 100 bushels of soybeans in March 2010 for \$960. (In reality, the exchange-traded contracts are for 50,000 bushels each, but we will make this assumption so the math is easier.) Also, let's assume that the price of soybeans and the relative discounts for buying a given time in the future remain the same. In six months, someone who held a stockpile of soybeans will have no return on their investment (in fact, they will have some losses due to the cost of storing the soybeans). However, the discount on our soybean futures relative to the spot price will have shrunk to the equivalent of the old September 2009 contracts from six months ago, so our futures are now worth \$990. We gained \$30 just from the "roll" of the futures prices as each contract moved closer to the higher spot price. Selling our March 2010 futures, we can then buy contracts to receive 103 bushels of soybeans in September 2010 (as those contracts would now have appreciated to a price of \$9.60 a bushel), reinvesting the gains from our roll yield.

The roll yield can also cut the other way and hurt the returns of investors in commodity futures. This happens when the futures prices for a given commodity are in contango, which means that futures contracts sell at a higher and higher premium to the current spot price as you buy further in advance. Right now, the primary example of a commodity in contango is natural gas.

Natural gas sold for \$3.12 per million British Thermal Units, or mmbTUs, on the spot market at the end of August 17. The September 2009 contract for delivery sold at a modest premium with a price of \$3.15 per mmbTU. However, the October 2009 contract offers natural gas at a price of \$3.51 and the November 2009 contract sells for \$4.37. These massive premiums for future delivery currently occur because natural gas is so hard to store and many extractors are shutting down gas rigs rather than keep producing at today's low prices. However, they can also destroy returns on futures investments relative to the spot price.

An investor who cannot take physical delivery of natural gas will not be able to hold the futures contract until expiration. Instead, they must sell the nearest month contract as it nearly expires and put their money into another futures contract further out. ;United States Natural Gas UNG maintains its position in natural gas by always rolling from the nearest month contract (currently September 2009) into the next month out (October 2009). At today's prices, selling a position of 100 September 2009 contracts would buy a position of only 90 October 2009 contracts due to the premium paid as we move further out on the futures curve. Thus, rolling futures positions in a commodity trading in contango steadily erodes the size of your exposure as you constantly buy further-out contracts at a premium, only to see that premium fall away as the futures price approaches the spot. Contango produces a negative roll yield that eats into any potential price gains on the underlying commodity.

Because the near month natural gas contract trades at a premium of 3 cents over spot prices, and the second month out trades at a premium of 39 cents, an investor rolling from the former into the latter would need natural gas prices and all the corresponding futures prices to move up by 36 cents between now and mid-September (a 12% gain over current spot prices in one month) just to break even. In light of this, the recent poor performance of United States Natural Gas should come as no surprise.



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