Broken Tail For Crude Oil Dog

If there was anything a group of crude oil traders could agree on back in the spring of 1991, it was the basis of the NYMEX' benchmark contract for sweet (low-sulfur) crude oil in the U.S., that for pipeline delivery of West Texas Intermediate (WTI) to Cushing, Oklahoma, would change within the decade. The principal reasons given at the time included declining production of the grade and an obvious need for a cargo-based contract near the refining centers of the U.S. Gulf Coast (USGC). The Chicago Board of Trade had launched such a contract, for delivery of Louisiana Light Sweet (LLS) crude oil at New Orleans, in 1983, but it failed quickly.

No one in the room, if memory serves correctly, worried about the possibility WTI at Cushing would become massively disconnected from the USGC, from the North Sea's marker crude oil, Brent Blend, or even from its own forward curve. Many of these problems can be traced back to the growth of financial investments in crude oil futures.

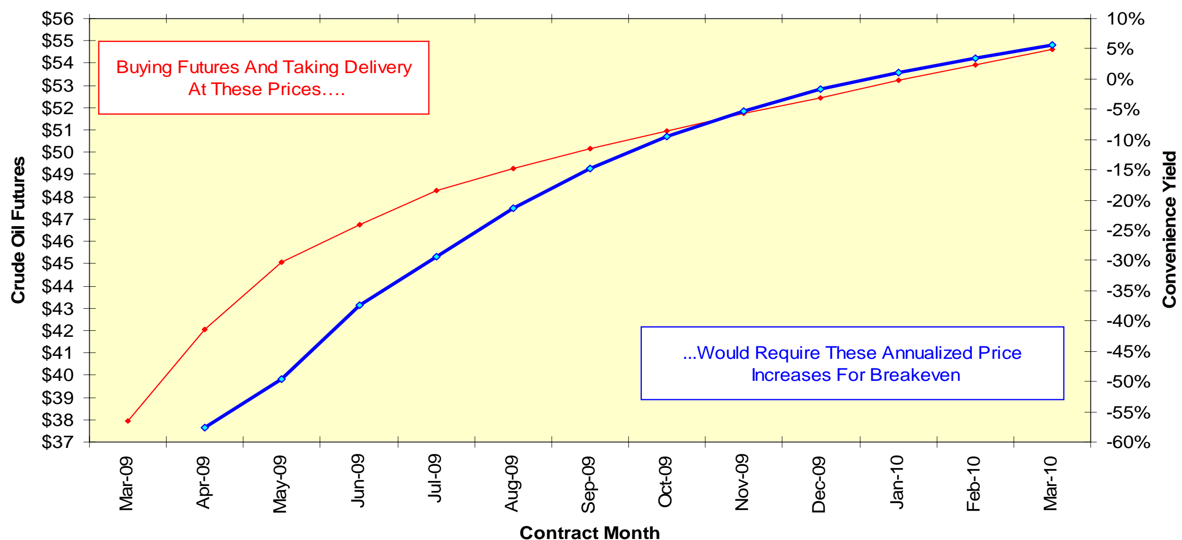
Futures exist for the purposes of price discovery, risk management and commerce facilitation (exchange of futures for physicals) and not for the purpose of being bought, held and rolled on a continuous basis. I discussed the issues of long-only commodity funds, crude oil ETFs and their impact on crude oil's forward curve and industry economics in the following series of columns:

1. December 2004, on commodity index investing;
2. April 2005, on crude oil's forward curve;
3. March 2006, on crude oil inventories;
4. April 2006, on the U.S. Oil Fund ETF; and
5. May 2008, on long-only funds and the role of speculation

The Forward Curve

The price of a commodity with an excess of supply for immediate delivery should fall to attract buyers. If any of those buyers wishes to store the commodity rather than use it, the storage can be hedged by selling it forward in the futures market. If the price at which the futures can be sold exceed the combined physical and financial costs of storage, the buyer is assured of an arbitrage profit. This market condition is called "contango."

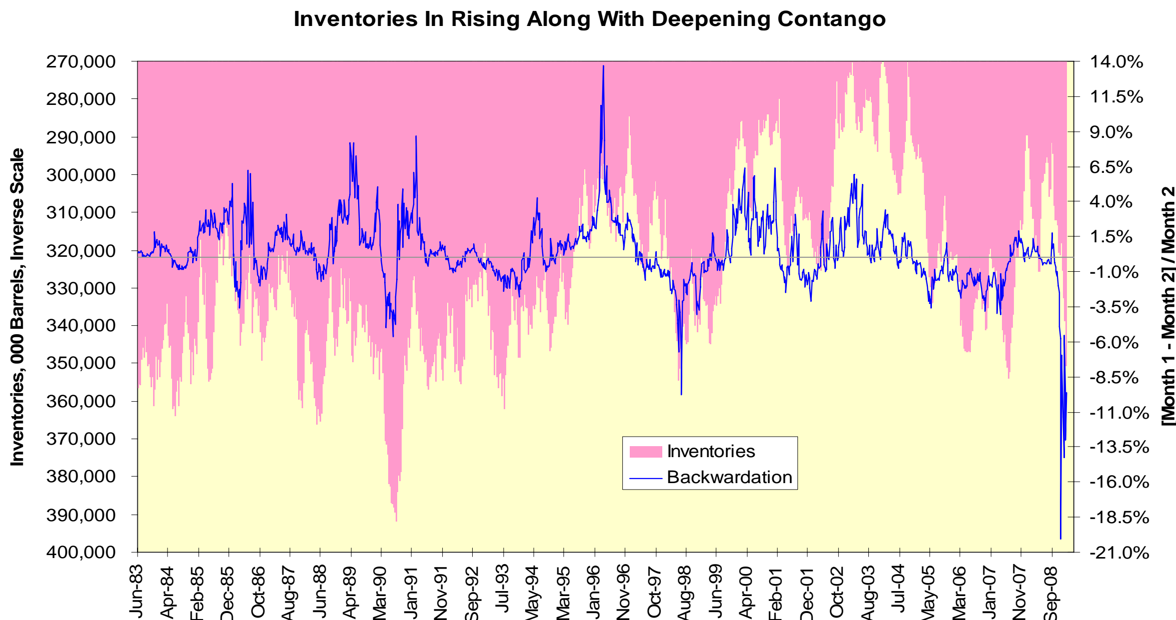
A snapshot of the crude oil market late last Friday reveals just how extreme this situation has become. Even if we impose a physical storage cost of $1.50 per barrel per month, the annualized arbitrage gain, or convenience yield, for those with storage available comes out to just under 60% a year.



For years, people assumed the exact opposite situation would prevail in a physical commodity such as crude oil or copper where the cheapest place of storage is in the ground; indeed, this the term "convenience yield" originates

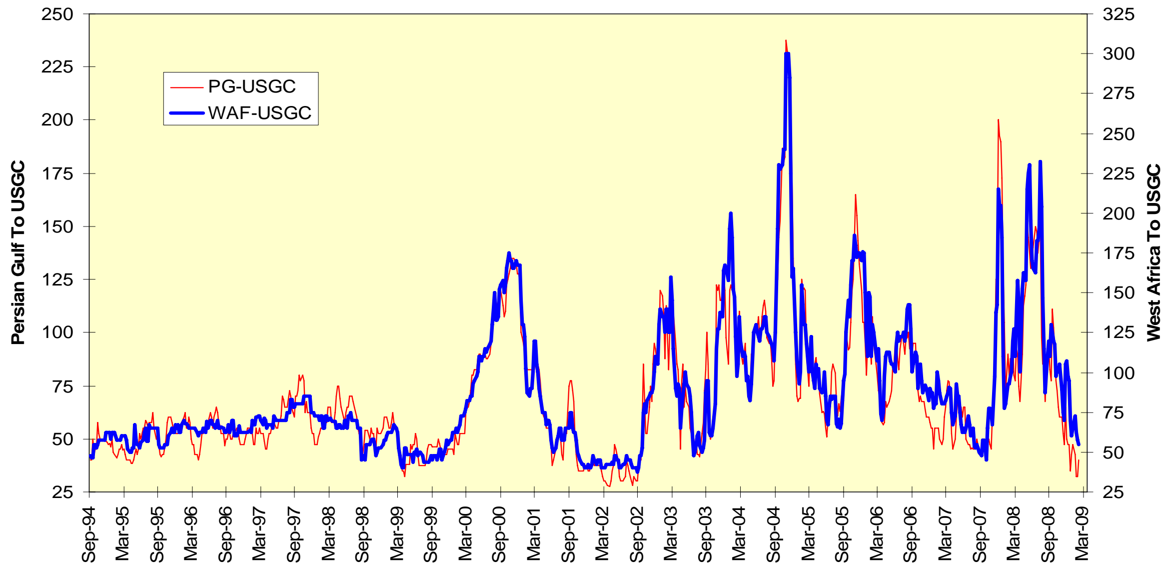
from the financial penalty commodity processors were willing to pay for the convenience of having inventories available. It was, as noted in a September 2001 column, considered a form of insurance.

Refiners, terminal operators and others with storage facilities really do build inventories when the situation allows. Inventories of crude oil are approaching their highest level in the crude oil futures-trading era; the present level is exceeded only by the period just prior to the first Persian Gulf War in 1990.

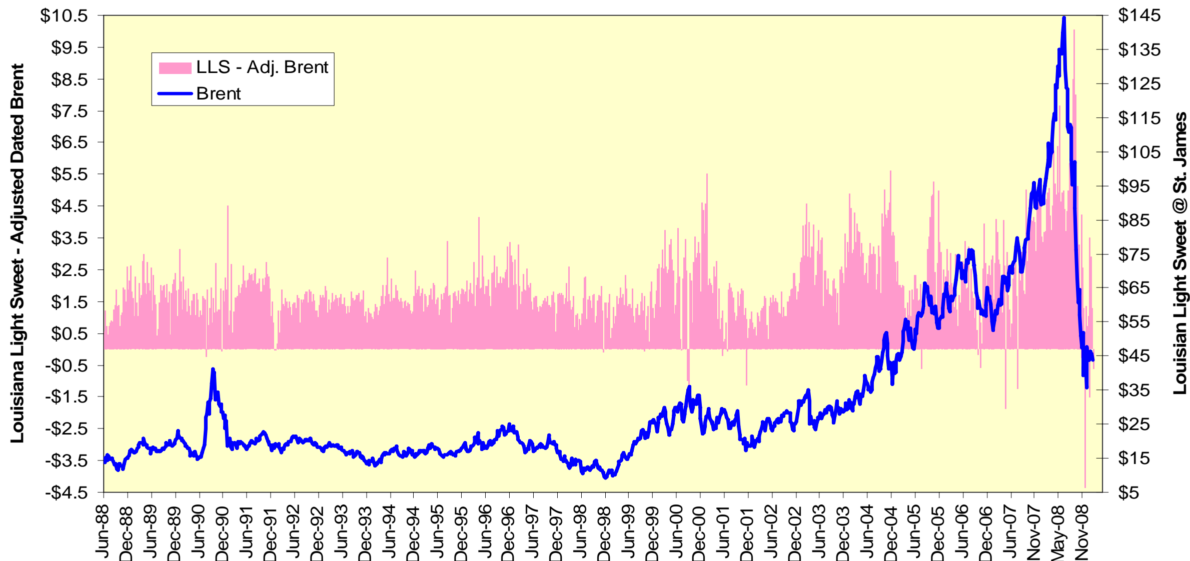


We know how that situation was resolved. Breaking a deep contango, such as we see today is difficult because as the spot price rises toward the futures price, those who have the oil in storage have the incentive to sell cash crude oil and buy back their short futures position in a deferred month. Unless the supply coming out of storage is offset by lower supplies coming into the market from producers, the sales drive the spot price lower and perpetuate the weak price environment.

That supply reduction is on the horizon, literally. Tanker tariffs expressed in Worldscale or percentage of normal, from both the Persian Gulf and West Africa to the USGC have been declining sharply in recent month. This represents a decreasing demand for future inventory and offers the possibility the supply glut can be broken.



This is consistent with the picture painted by the spread between LLS at the USGC and Brent, with Brent being adjusted for changes in its forward curve to account for the voyage time across the Atlantic. The spread was high and rising during crude oil's bull market; it has since plunged to levels where incremental cargoes of sweet crude oil will go to markets outside of the U.S.



We must note in passing LLS at the USGC was used rather than WTI at Cushing. The reason is simple: The pipelines between Texas and Cushing run one way, and that is away from the USGC. No matter how cheap Cushing gets relative to the USGC, the flow will not move in the other direction. Brent-basis cargoes are going to be priced relative to another sweet crude oil in a market where they actually can compete.

The net result of all this is front-month NYMEX futures are not representative of conditions refiners see. They are an artifact of storage distortions created by the use of futures markets for purposes not intended, the buying, holding and rolling of a long-only position. If this situation persists, traders, investors and policymakers will need to abandon that market as an indicator and select either a market such as LLS or similar at the USGC.

Finally, anyone who makes short-term trading decisions in energy-related stocks based on the fluctuations in NYMEX futures will get all they deserve; this was discussed in December 2007.