Petroleum Outlook Unsettled

No market move is allowed to occur in a vacuum. Someone, somewhere always has a reason for why what happened was bound to have happened. The releases of economic and industry data always provide a good excuse and sometimes a good reason for trading, and that's just part of the game.

As an aside, I will be addressing the Chicago Mercantile Exchange's economic derivatives auctions, the markets wherein institutional investors (no small traders need apply) can bet on what these releases will be, sometime in the next few weeks. What would Clarence Beeks, the data-thieving villain from the 1983 classic *Trading Places,* say about these?

All this was brought to mind by the crude oil market's $2 per barrel jump in reaction to the inventory data released last week. As this was in direct contravention to my admonition last March to stop counting crude oil inventories, I took it personally. Let's update the relationship between crude oil inventories, the futures market and various petroleum industry spreads and see what they indicate for the crude oil market's short-term direction.

Contango And Inventories: Somewhat Bullish

The section written on the futures market in March still applies verbatim today:

> *Futures markets are priced on the principle of equivalence. In a perfectly balanced market, you should be indifferent between buying a physical commodity now and storing it yourself for later consumption and buying it for future delivery and letting someone else pay for the storage costs. This idyllic situation, also known as full carry, seldom applies in practice. The world's stackers of wheat and butchers of hogs, not to mention its smelters of copper and refiners of crude oil, cannot afford to run out of inventories and therefore pay for the "convenience" of having excess supplies available.*
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> *This number, dubbed "convenience yield," can be viewed as the commodity buyer's insurance payment for supplies. It also represents the producer's cost of hedging by selling forward in the futures market. For commodities such as crude oil and copper where the cheapest place of storage is with the producer, the convenience yield measure could be quite high.*
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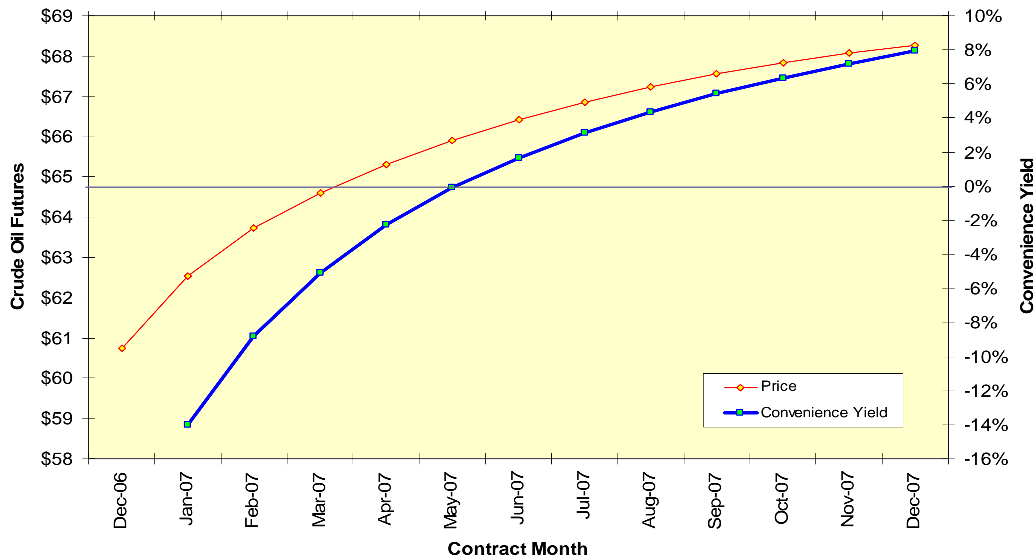
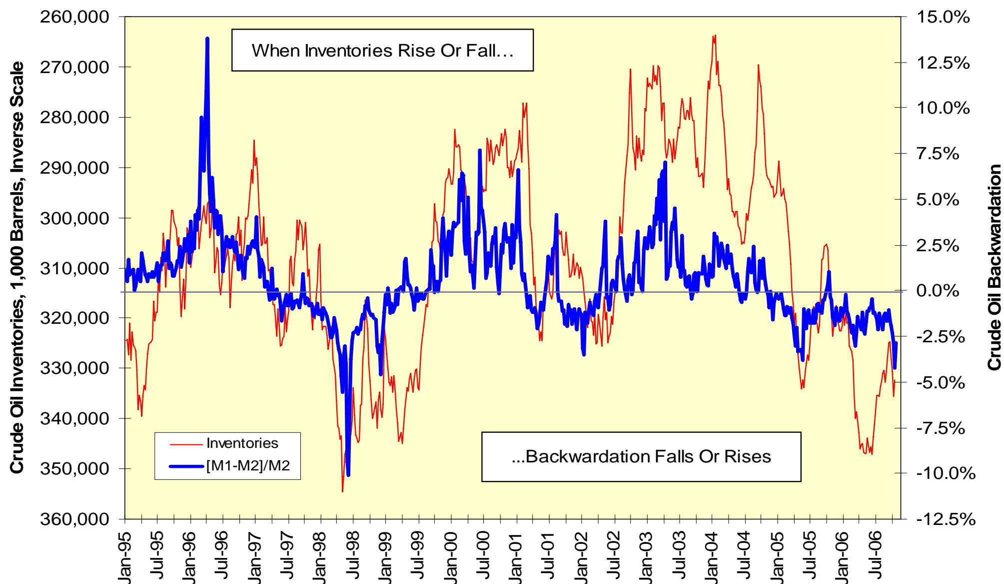
> *At present, the crude oil market's forward curve is in contango, a situation characterized by negative convenience yield. Negative convenience yield means negative insurance costs for refiners, which in turn means they can buy crude oil, pay for all of its storage costs and hedge it by selling the next month's future.*

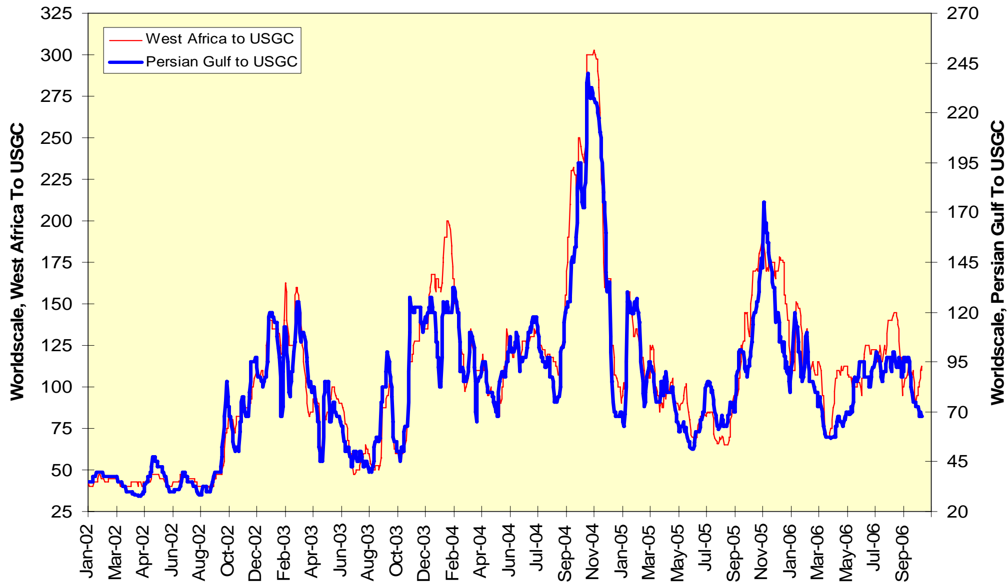
At present, a refiner could buy spot month crude oil, place it in storage and sell any of the first four months of crude oil futures as a profitable hedge. This is a powerful incentive to build inventories, which in turn should place a bid under current price levels.



We see the same force operating historically. Crude oil inventories, plotted inversely, tend to rise whenever backwardation, or the premium of the front month future to the second month, turns negative and to fall whenever backwardation turns strongly positive. So long as the trend toward negative backwardation remains in place, as it likely will for reasons discussed in April 2005, we should continue to see physical demand for crude oil as part of the inventory-building trade.

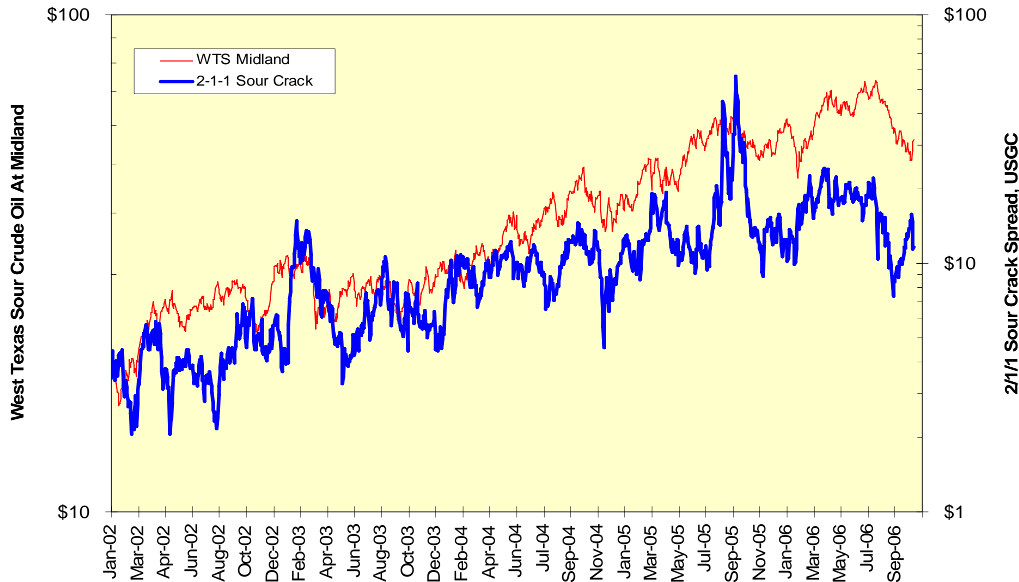


One part of this equation is missing, however. Incremental demand for crude oil must be met by imports, and that should lead to higher tanker rates. If we take a look at two key routes into the U.S. Gulf Coast expressed in Worldscale, or percentage of expected tariff, those from West Africa and the Persian Gulf, we do not see any sort of sustained increased. This is a strong signal refiners are not particularly anxious to take full advantage of the inventory-building opportunity at present, and that caution dampens any bullish signals noted above.



Refining Margins

Before you wonder why refiners might be leaving money on the table, consider what the world looks like from their operations. Crude oil is worthless until you refine it, and the return on refining has ceased rising at an exponential rate. If we plot the price of West Texas Sour crude oil against the 2-1-1 (two barrels of crude oil, one each of heating oil and gasoline) margin at the U.S. Gulf Coast, both on a logarithmic scale, we see how refining margins started to turn lower in early 2006. This downturn preceded the August top in crude oil by more than three months. If refiners are concerned about their margins, which have been affected negatively by repairs from the various outages of 2005 and by some de-bottlenecking in the ethanol delivery network, they will be less than enthusiastic about buying crude oil regardless of the economics of storage.



It is this offsetting tug-of-war between refining margins and the economics of crude oil storage that have placed the crude oil market into such a twitchy trading range of late. The actual inventory numbers, the focus of so much breathless reportage, pale in importance next to these market forces. And let's not even get into the wisdom of trading various energy stocks, which are long-term financial assets, on the basis of one-day price movements in the underlying commodity. That is a subject for another day.