

Speculators Fixing Oil Prices? Don't Bet On It

EXECUTIVE SUMMARY

- Record-high oil prices demand a target, and some politicians are increasingly pointing the finger at speculators in the commodities futures markets. But high oil prices are due to restricted supply, booming demand, and a weakening dollar.
- There is no hard evidence that speculators are responsible for high oil prices. If the price of oil truly were above the level that the fundamentals could support, we would see growing inventories of crude. But inventory levels show no such pattern.
- Speculators provide a vital function. By buying when prices are low and selling when prices are high, they actually make oil prices *less* volatile. Large investment funds provide *liquidity* to the commodities futures markets, and allow producers and consumers to concentrate on their core businesses.
- Government restrictions on investment in the oil futures market will only hurt consumers by making the oil market less efficient. New regulations will do nothing to ease oil prices in the long term.

"I'm from the government, and I'm here to help," continues to be one of the scariest sentences a believer in free markets can hear. On June 17, the Commodities Futures Trading Commission (CFTC) announced that it would work in conjunction with U.K. regulators to increase oversight of speculation in crude oil on the London-based ICE Futures Europe exchange.ⁱ The move is just another escalation in politicians' misguided campaign to "do something" about record energy prices. Futures markets speculators are the latest scapegoats, with prominent politicians and even ministers from OPEC blaming speculators in commodities futures markets for sky-high crude prices.

The strongest case for enhanced regulation of commodities markets was made by hedge fund manager Michael Masters on May 20 before the Senate Committee on Homeland Security and

Government Affairs.ⁱⁱ However, we will show that Masters neglects the healthy, stabilizing role of commodity investment and speculation in a market economy. In addition, his statistics are very misleading and do not establish that the rise in crude oil prices is due to speculation. The rise in oil prices is due to the weakening dollar and to the fundamentals of supply and demand by commercial participants, which include factors such as shrinking spare production capacity (down to 1.4 million barrels per dayⁱⁱⁱ) and rising personnel and equipment costs. Speculators aren't to blame.

Speculators Aren't Causing Price Hikes

Market prices are always determined by supply and demand. However, when analysts blame speculators for driving up prices higher than the "fundamentals" justify, what they mean is that speculators enter the market with an *artificial demand* that is laid on top of the commercial demand for oil by refiners, industrial customers, etc. By supplementing the commercial demand with the speculative demand for oil, the resulting price will be higher.

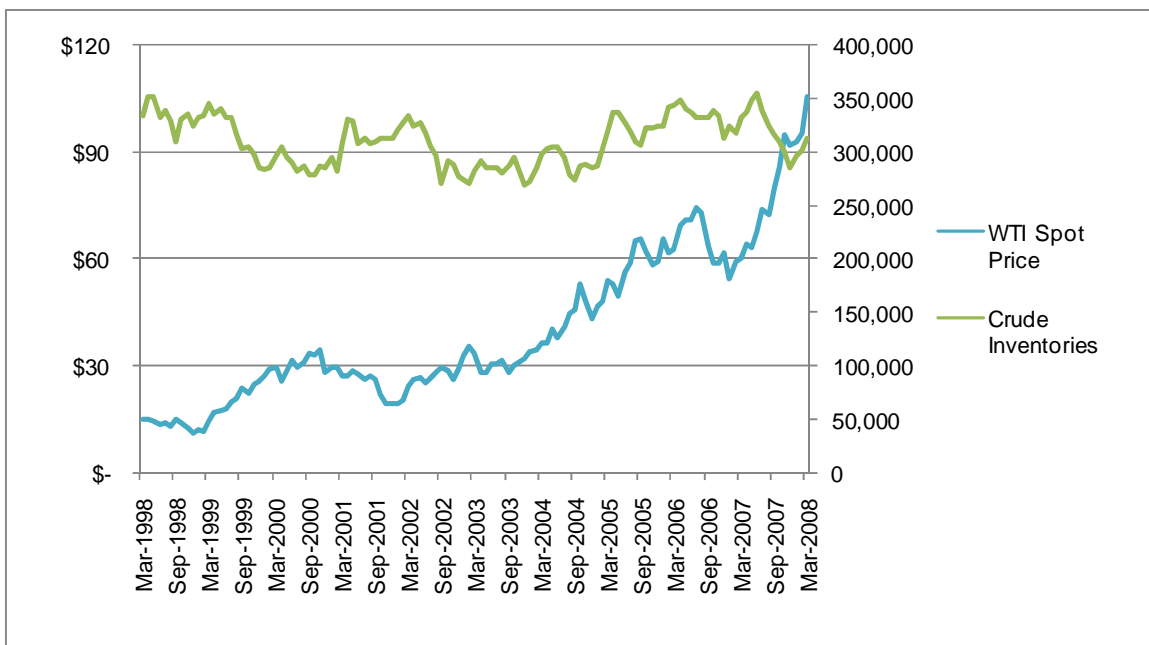
The data do not support this theory. If speculators raise the price of oil above the level that balances supply with (commercial) demand, then there will be a glut of oil on the market that must be hoarded for future sale. For example, suppose that at a world price of \$90 per barrel, world oil output is 85 million barrels per day and commercial demand is 85 million barrels. The market clearing price of \$90 is thus the correct one based on fundamentals.

Now if speculative investors suddenly purchase billions of dollars worth of oil futures contracts, they will push up the futures price of oil, which in turn will drive up the spot price of oil. Suppose the new world price settles at \$130 per barrel. At this price, world oil output is slightly higher, say 85.5 million barrels per day, while commercial demand is lower, falling to (we'll say) 84.5 million barrels per day. Because of the speculative demand, there is now a daily glut of 1 million barrels per day, because the higher world price of oil has encouraged producers and discouraged consumers of oil.

Naturally the numbers in our example were chosen for simplicity, but the point remains: If speculators really have driven up the world price of oil above the level justified by the fundamentals, then world output should be exceeding world consumption. That oil must be going somewhere. The investment banks and hedge funds investing in oil futures contracts need not engage in physical stockpiling, but *some* group must be. On the other hand, if there is no hoarding, meaning that commercial consumers are purchasing every barrel that producers bring to market, then the world price is justified by the fundamentals.

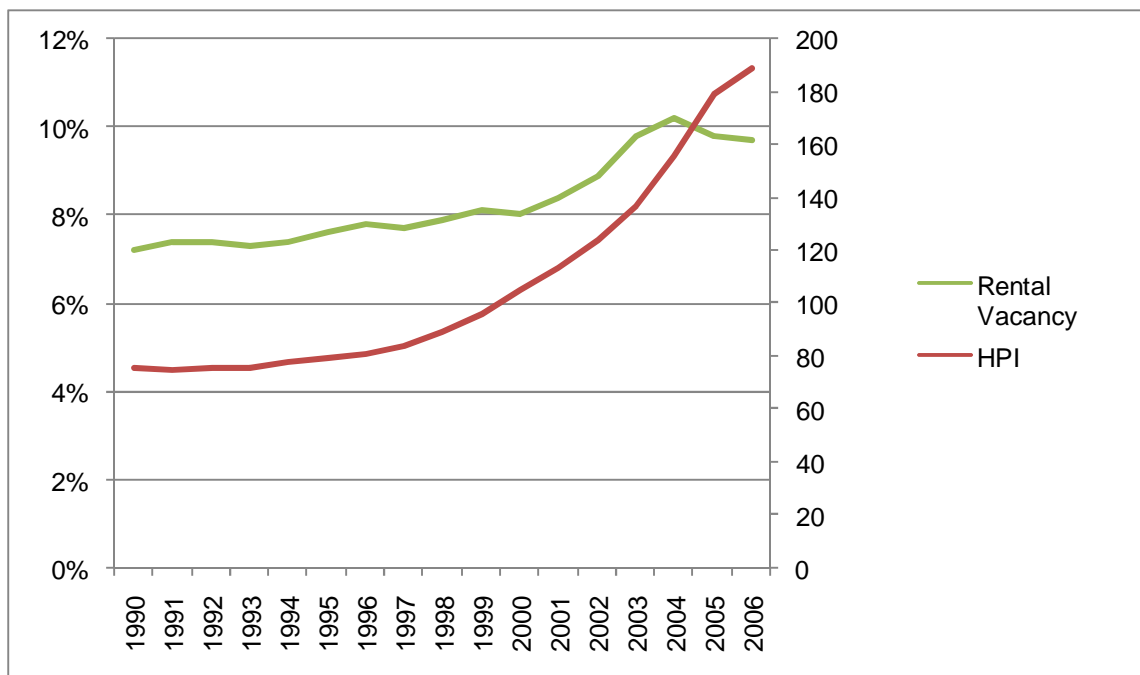
The chart below plots the price of oil against commercial inventories in the U.S. It is clear that there has been no physical accumulation of oil at any point during the tremendous increase in prices. In other words, speculators are not “hoarding” oil off the market in order to drive up prices.

Figure 1
West Texas International Crude Oil Spot Price versus
U.S. Commercial Crude Inventories (monthly, thousands bbls)
 (source: EIA^{iv})



In contrast to Figure 1, we can instead look at the historical relationship between home prices and rental housing vacancy rates during the recent boom. As Figure 2 below illustrates, there is a compelling connection between the two, which confirms the theory that speculators bought homes in the early to mid-2000s not to live in or even to rent out immediately, but rather as investments to capture future price appreciation.

Figure 2
U.S. Rental Vacancy Rates versus
Case-Shiller Home Price Index (annual)
(sources: Census Bureau and S&P^v)



At any snapshot taken during the housing boom, there was a larger-than-normal fraction of rental units that were vacant, because investors were pushing prices higher than the fundamentals could bear, in hopes of gaining from future appreciation. This pattern is quite clear in Figure 2 above. (Note that even the reversal of the pattern occurred as the housing boom peaked.)

To summarize, if speculative activity drives market prices above the level at which supply and conventional demand are matched, then the data should indicate a growing stockpile of excess supply. This rule shines clearly in the data on the housing boom, but does not appear at all in the data on oil inventories. It appears that speculative activity has had little to do with the sharp increase in oil prices.

You Can't Eat a Futures Contract

Figure 1 above shows us that hedge funds and other institutional investors are not actually diverting oil from its end users. When Michael Masters says that "*Index Speculators have now*

stockpiled, via the futures market, the equivalent of 1.1 billion barrels of petroleum” (p. 5), we must ask: Exactly where are these incredible quantities being stored?^{vi} The answer of course is that they aren’t being stored anywhere; Masters derives his figure based on market prices of contracts and oil. Except for strategic petroleum reserves held by governments, all of the oil that has been pumped in the last few years has been purchased and used by consumers. This means that the fundamentals are driving high oil prices, not speculators.

Masters’ error is even more pronounced when he turns from oil and focuses on food:

Turning to Wheat [sic], in 2007 Americans consumed 2.22 bushels of Wheat per capita. At 1.3 billion bushels, the current Wheat futures stockpile of Index Speculators is enough to supply every American citizen with all the bread, pasta and baked goods they can eat for the next two years! (p. 5)

To repeat, Masters is here committing a very naïve mistake. When large investors buy futures contracts in commodities, they roll them over before the actual delivery. Goldman Sachs isn’t building silos to store all of the wheat that it is allegedly stockpiling. When the futures contracts for June near maturity, the investment bank will sell them *to a commercial user* and use the money to buy July contracts. Thus the farmers who originally sold the contracts still end up delivering the physical wheat to commercial purchasers, who then sell it to the appropriate parties for it to be turned into flour etc. The investment bank has merely acted as an intermediary, profiting or losing based on which way prices move. But no matter what happens, the wheat is ultimately turned into food.

Commodities Speculators Provide Stability

Contrary to popular belief, successful speculators actually promote price stability in markets. By buying low and selling high, speculators push up the low prices and push down the high prices. Over the entire range of the cycle, the presence of speculators *reduces* price volatility.

Yet Masters argues that things are different when it comes to the new animal, Index Speculators:

Index Speculator demand is distinctly different from Traditional Speculator demand; it arises purely from portfolio allocation decisions. When an Institutional Investor decides to allocate 2% to commodities futures, for example, they come to the market with a set amount of money. They are not concerned with the price per unit; they will buy as many futures contracts as they need, at whatever price

is necessary, until all of their money has been “put to work.” Their insensitivity to price multiplies their impact on commodity markets. (p. 5)

However, Masters contradicts himself just three paragraphs later:

*One particularly troubling aspect of Index Speculator demand is that **it actually increases the more prices increase**. This explains the accelerating rate at which commodity futures prices (and actual commodity prices) are increasing. Rising prices attract more Index Speculators, whose tendency is to increase their allocation as prices rise. So their profit-motivated demand for futures is the inverse of what you would expect from price-sensitive consumer behavior. (p. 6, emphasis original)*

Thus Masters accuses Index Speculators of two sins: (1) They do not respond to prices, and (2) They respond in the wrong way to prices.

In reality, what happens is that large investors make asset allocation decisions based on expected future price moves. The only reason a large fund would devote, say, 2% of its assets to commodities futures, is that the fund’s managers believe commodities prices (and their volatilities) provide an attractive investment relative to traditional assets such as stocks and bonds.

Yes, the greater the expected outperformance of commodities, the more funds will invest in them, and the higher the allocation that will be given to such commodities. But this is exactly what we *want* speculators to do. If oil prices are going to be \$200 per barrel next year because of growing demand and stagnant supply, then current prices need to rise in order to spur more production and encourage conservation.

So long as their forecasts of rising prices are accurate, investors who push up current prices are performing a valuable service. They ensure that the price hikes are more gradual than would otherwise be the case.

Institutional Investors Provide Liquidity

Masters is aware of the benefits of traditional speculators, but thinks the current situation is different:

*There is a crucial distinction between Traditional Speculators and Index Speculators: Traditional Speculators provide liquidity by both buying and selling futures. Index Speculators buy futures and then roll their positions by buying calendar spreads. **They never sell.** Therefore, they consume liquidity and provide zero benefit to the futures markets. (p. 6, emphasis original)*

Here again, Masters contradicts his earlier claim, and this mistake allows him to miss the social benefits of (what he calls) Index Speculators. When a fund has decided on, say, a 2% allocation in oil futures, what happens when the price of oil rises? In this case, the fund's total value increases, but the share of oil futures rises disproportionately, so that the allocation is now higher than 2%. If the price hike hasn't changed the fund's underlying views about the future, then during the next rebalancing the fund will *reduce* its holdings of oil futures, i.e. it will become a *net seller*. Of course, the opposite holds if oil prices fall; then the fund will buy additional futures contracts in order to restore its desired 2% allocation.

The benefit of this process is that it provides *liquidity* to the futures markets. For example, the engineers at an oil refinery may report to management that routine maintenance is taking longer than expected, and consequently capacity over the next few months will be slightly lower than originally forecasted. The refinery will then need to sell off some of the oil futures contracts it had purchased, because it doesn't want to take delivery of barrels that it will need to hold as inventory for an extra few months.

Without institutional investors to "pick up the slack," the refinery would have to find another physical consumer willing to buy the futures contracts at the exact moment when the refinery wished to sell them, or it would have to sell small quantities of contracts to various physical consumers. Rather than engaging in this costly and time-consuming search process, the refinery can sell the entire batch of contracts at a reasonable price to institutional investors who act as middlemen. The financiers can then worry about selling the excess contracts at various prices before the delivery date, letting the refinery get back to its core business of producing gasoline.^{vii}

Conclusion

Michael Masters' testimony is long on technical details but short on economic principles. Because they have not withheld physical supply from the market, speculators are not responsible for rising oil prices. Moreover, the presence of large investors provides stability and liquidity to the commodities markets. The enhanced oversight of the ICE Futures Europe exchange, as well as the proposed new interventions in U.S.-based markets, will only stifle this beneficial process.

ⁱ “Regulators Moving to Curb Speculative Oil Trading,” Reuters, June 17, 2008, available at: <http://www.cnbc.com/id/25210307>.

ⁱⁱ Masters’ testimony available at: <http://hsgac.senate.gov/public/files/052008Masters.pdf>.

ⁱⁱⁱ Spare production capacity data available in the EIA June Short Term Energy Outlook at: <http://www.eia.doe.gov/emeu/steo/pub/gifs/fig10.gif>.

^{iv} In Figure 1, the WTI spot price data are available at: http://tonto.eia.doe.gov/dnav/pet/pet_pri_spt_s1_d.htm, while the commercial inventories data are available at: http://tonto.eia.doe.gov/dnav/pet/pet_stoc_wstk_dcu_nus_w.htm.

^v In Figure 2, the rental vacancy rates are available at: <http://www.censusbureau.biz/hhes/www/housing/hvs/annual06/ann06t1.html>, while the Case-Shiller home price index data are available at: http://www2.standardandpoors.com/portal/site/sp/en/us/page.topic/indices_csmahp/0,0,0,0,0,0,0,0,1,3,0,0,0,0,0.html.

^{vi} It is possible that the excess oil is being “hoarded” in the ground, i.e. that oil producers have reduced current output in order to sell more barrels to future sale at a higher price. (If this were happening, then current prices would also rise, due to the reduction in current output.) However, as noted at the beginning of the article, spare production capacity is well below its ten-year average. Non-OPEC production in 2007 was at a record high, and is forecasted to set another record by the end of 2008, meaning that market signals are almost certainly not leading producers to scale back current output for speculative reasons. (For these forecasts see the EIA’s June Short Term Energy Outlook at: http://www.eia.doe.gov/emeu/steo/pub/contents.html#Global_Petroleum_Markets.)

^{vii} More accurately, what can happen is that other speculators can buy the entire batch of contracts from the beleaguered refiner, at a slight reduction in price. Then, during the next rebalance by a large institutional fund, those excess contracts can be swept back up at a slightly higher price (though the price will still settle at a lower level than before the refinery realized its problems, since the fundamentals have slightly changed). The presence of the large institutional fund still benefits the refiner. This is because the smaller middleman speculator will be willing to buy the excess contracts from the refiner at a much smaller discount, since he knows he can unload them soon enough to the large fund during its rebalance.