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The Impact of Futures Trading on Commodity Markets and Prices

Dr. James L. Smith, Cary M. Maguire Chair in Oil & Gas Management

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Some Questions

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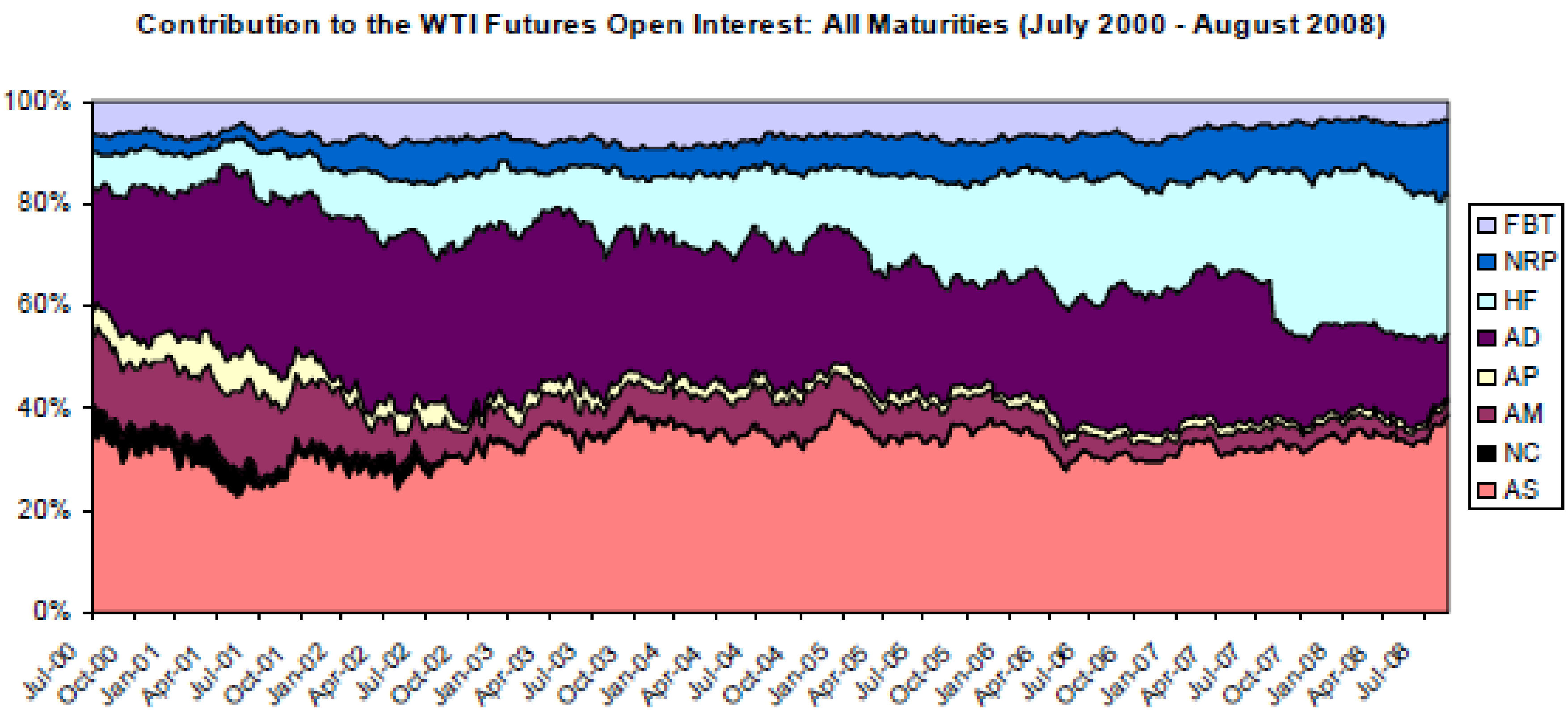
- **How does futures trading affect the *level* of oil prices?**
- **How does the influx of *financial* traders alter the answers given above?**

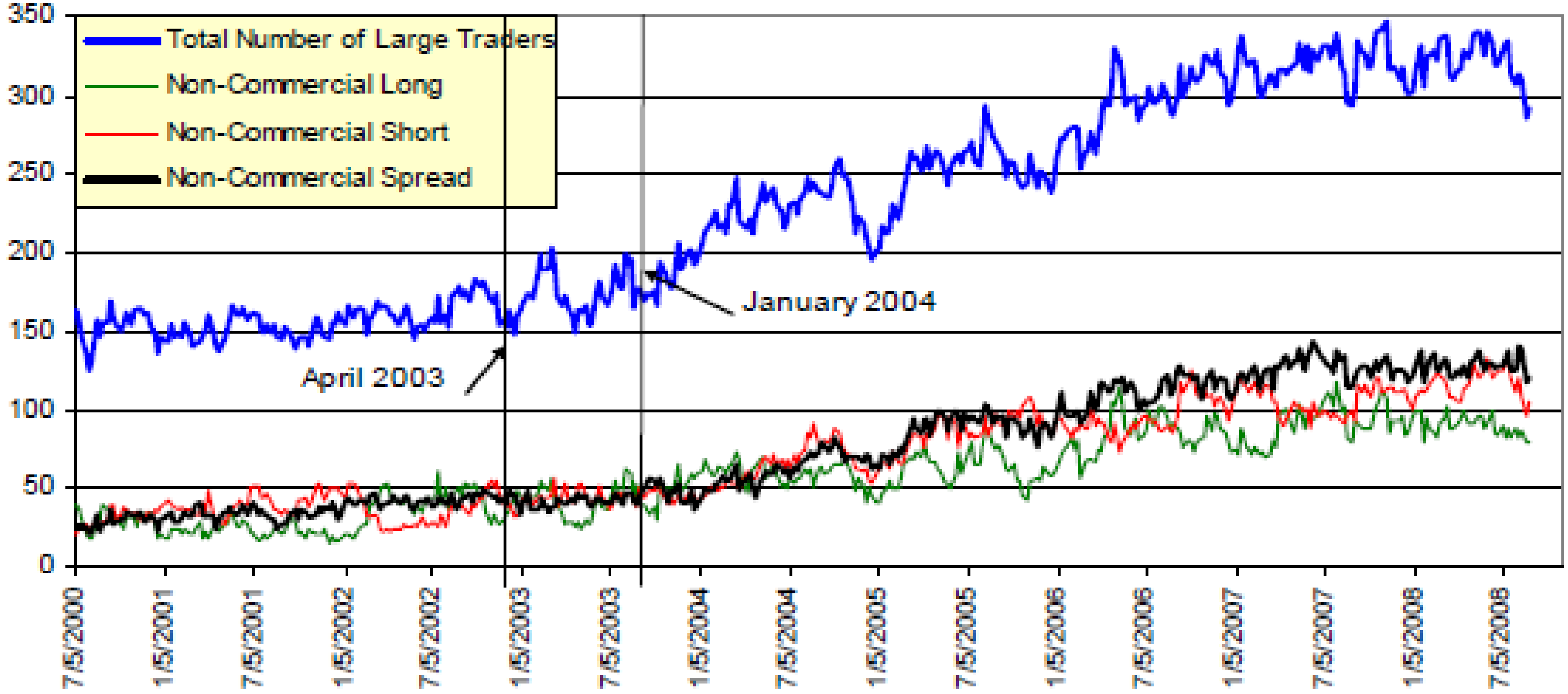
Growth in Market Share of Financial Traders



Source: Buyuksahin, Haigh, Harris, Overdahl, and Robe (2008)

Growth in Number of Large Financial Traders

Note: Almost equal growth in numbers of long (green) and short (red) financial traders.



Source: Buyuksahin, Haigh, Harris, Overdahl, and Robe (2008)

Where do the Speculators Fit In?

"It is still rather generally believed that futures markets are *primarily speculative* markets. They appear so on superficial observation, as the earth appears, from such observation, to be flat."

-- Holbrook Working, Stanford University,1960

Onion Market Redux

“The reasons Congressional committees misinterpreted the evidence are not specific to the onion market, but general, influencing most people who are otherwise well informed. ***And producing misunderstanding and misjudgment of all futures markets*****.”**

-- Holbrook Working, 1960

The Challenge We Face: Sorting it Out

"The role of speculation in commodity futures markets is perhaps the least well understood economic activity."

-- Anne Peck, Stanford University, 1980

Time to Start Blaming the Speculators?

PETROLEUM INTELLIGENCE WEEKLY

MON., APR. 25, 2011

Time to Start Blaming the Speculators?

Oil prices don't usually need to spend much time above $100 per barrel before debate -- typically encouraged by Opec -- starts raging over the role played by speculation. That debate has intensified over the past couple of weeks after investment bank Goldman Sachs claimed that speculators had added some $20/bbl to oil prices and urged their clients to take profits -- and this just a few weeks after the bank had warned that prices could hit $200/bbl because of the dwindling spare capacity available to counter possible further supply disruptions (PIW Mar.14,p8). Goldman's clients and other traders appeared to heed the profit-taking advice, with ICE Brent futures losing about $6/bbl in just one week to settle down around $120/bbl, and WTI shedding $7/bbl after recently topping out at $113.46/bbl (PIW Apr.18,p8).

Item: The *"Hedge Fund Hypothesis"*

- **Financial traders brought new money to the futures market that drove up the price of oil.**

- **Financial traders = hedge funds, commodity index investors, etc.**

Two Versions of the *Hedge Fund Hypothesis*

1. **<u>The Quantity Theory of Futures</u>: The new money forced the oil price to rise of its own volition—independent of fundamental forces in the physical market.**

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2. **Contagion: Trading by financial speculators altered the expectations of commercial traders, who were complicit in driving the oil price up.**

Two Versions of the *Hedge Fund Hypothesis*

1. <u>The Quantity Theory of Futures</u>: The new money forced the oil price to rise of its own volition—independent of fundamental forces in the physical market.

Neither version seems true!

2. <u>Contagion</u>: Trading by financial speculators altered the expectations of commercial traders, who were complicit in driving the oil price up.

Version #1 (Quantity Theory of Futures)

- Inflow of new money forced up the price.
  - Fixed supply of oil
  - Greater demand
  - Higher price (duh)

- Like the "Quantity Theory of Money"

$$M^{\uparrow} \times \underline{V} = P^{\uparrow} \times \underline{Q}$$

THE WALL STREET JOURNAL.
WSJ.com

ASIA BUSINESS | SEPTEMBER 15, 2010

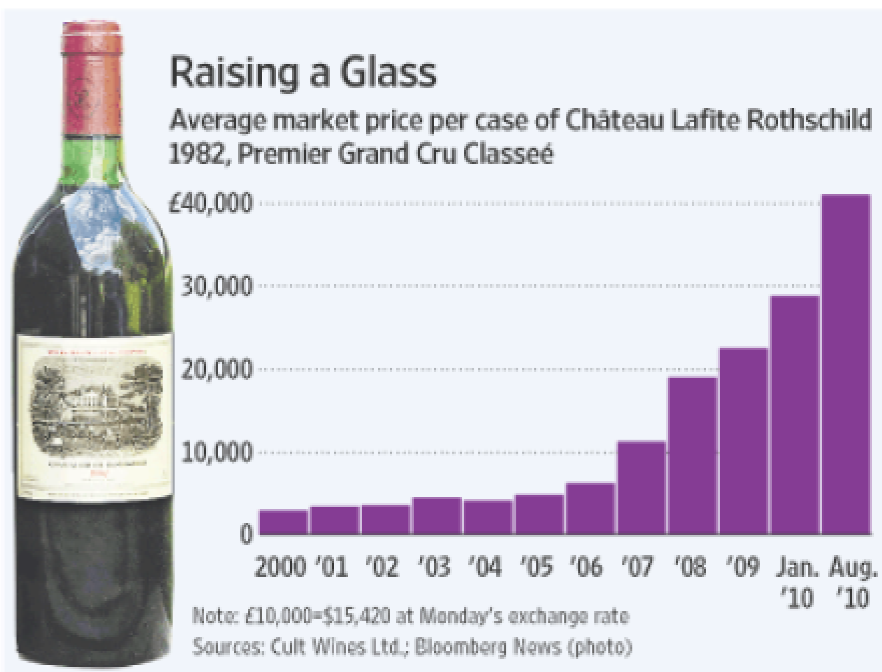
New Whine: China Pushes Bordeaux Prices Higher

By KIMBERLY PETERSON in Paris And JASON CHOW in Hong Kong

In early July, Hart Davis Hart Wine Co. began advance sales of Château Lafite Rothschild's 2009 Bordeaux at $18,000 a case.

Within four days, the Chicago-based retailer and auction house had sold out. But its supplier's price had risen, and Hart Davis Hart now sells the 12-bottle cases for future delivery at $23,000—about $1,900 a bottle.

"That is much more expensive than we have ever seen in a previous futures campaign," says Ben Nelson, president of Hart Davis Hart Wine.



Sotheby's via Bloomberg

Word is spreading that the top 2009 Bordeaux wines might be the best ever. And if they aren't the best, they're likely to be the priciest.

Part of the reason is near-perfect weather in western France last year.

But wine makers and merchants also credit booming demand from emerging economies, especially that of China, where labels like Lafite and Margaux have joined Prada and Hermés as badges of wealth. Last year, China passed the U.S. to become Bordeaux's biggest export market by volume outside Europe.

Other wines also might benefit from last year's weather and China's thirst. But that won't become clear until those

“Quantity Theory of Futures” Fails Because…

- **Unlike 2009 Bordeaux, futures contracts are not in fixed supply.**
- **Unlike 2009 Bordeaux, the purchaser of a futures contract does not take delivery (cash settlement).**
- **Unlike 2009 Bordeaux, cash settlement requires each trader to sell back what he initially bought, or buy back what he initially sold.**
- **Unlike 2009 Bordeaux, buying pressure = selling pressure = no pressure.**

Small Gold Trader Makes Big ~~Impact~~ Splash

THE WALL STREET JOURNAL.
WSJ.com
MARKETS: JANUARY 28, 2011

Small Gold Trader Makes Big Splash

Daniel Shak's Aggressive Bet Grabbed Sizable Chunk of Contracts, But Prices Fell and Wager Went Bad

By CAROLYN CUI And GREGORY ZUCKERMAN

A huge trade by a tiny hedge fund has sent shudders through the gold market. Thanks to the nature of futures trading, Daniel Shak's $10 million hedge fund held gold contracts valued at more than $850 million, more than 10% of the main U.S. futures market, and the equivalent of South Africa's annual gold production.

But as gold prices started falling this year, the trade, which was a combination of being long and short gold contracts—bets that prices will both rise and fall—started going bad. Monday, he liquidated his position, and is returning money to clients.

As a result, the number of gold contracts on CME Group Inc.'s Comex division plunged more than 81,000, to about 500,000, the biggest single reduction ever. While his trade didn't account for all of the contracts, an average daily move is about 3,000 to 5,000 contracts.

Version #2 (Contagion)

- **Trading activity of speculators influenced the market expectations of *commercial* participants.**
- **This could occur if commercial participants believe the speculators are informed.**
- **This version is in the highly respected tradition of the market as aggregator of information. Grossman, *Review of Economic Studies* (1977), etc.**

Implications of Version #2 (Contagion)

		Commercial Traders	
		Informed	Not informed
Speculators	Informed	😐	☺
	Not informed	☹	💣

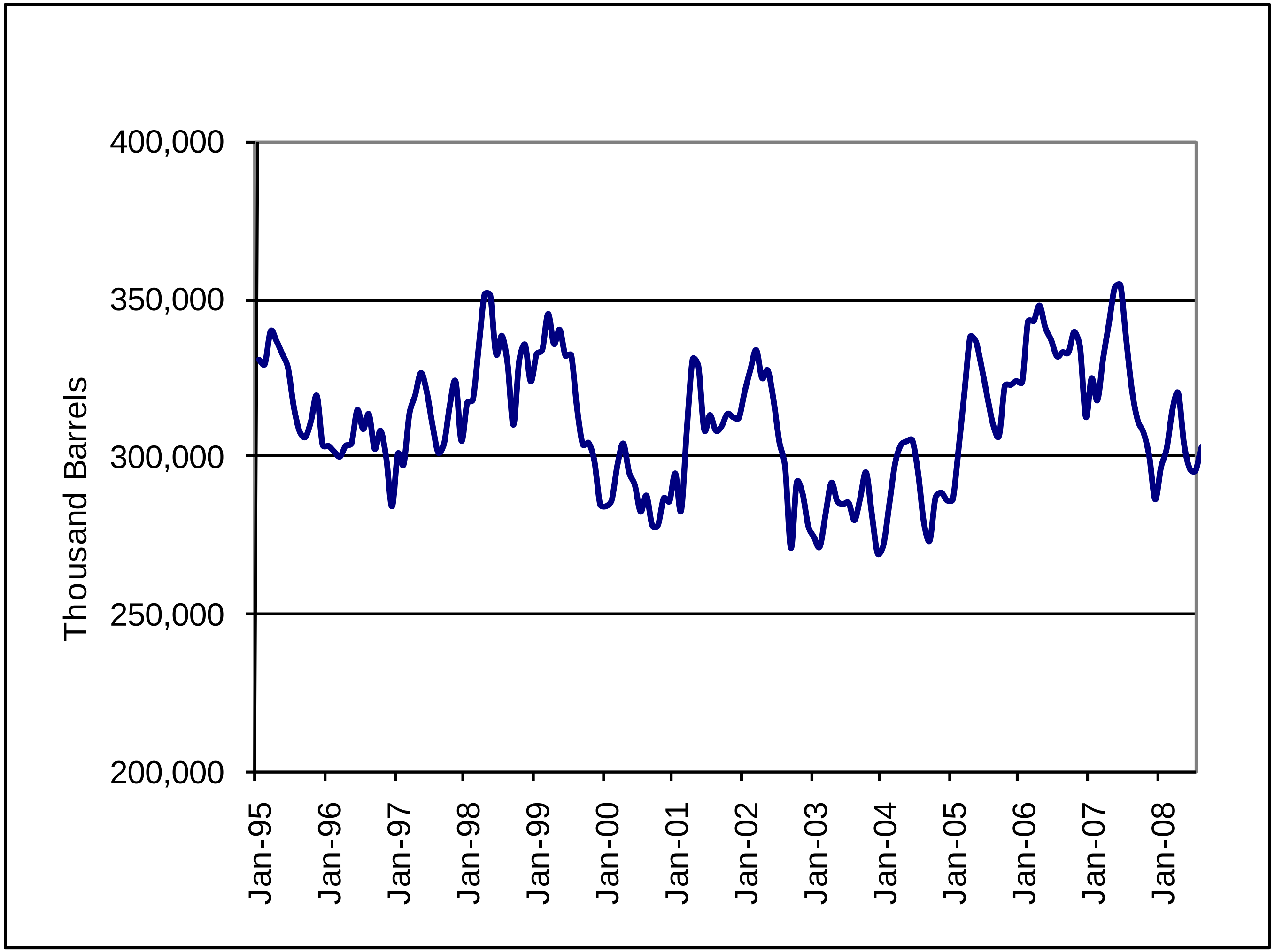
How Contagion Affects the Supply Chain

- **Financial traders anticipate future shortage (Chinese demand surge) and go long in oil futures.**
- **Refiners are persuaded by reported trading activity and therefore attempt to build inventories ahead of the future shortage.** ***Inventories increase now.***
- **Producers are persuaded by reported trading activity and therefore reduce current production, saving it for the time of shortage.** ***Production decreases now.***

Contagion Fails Because…

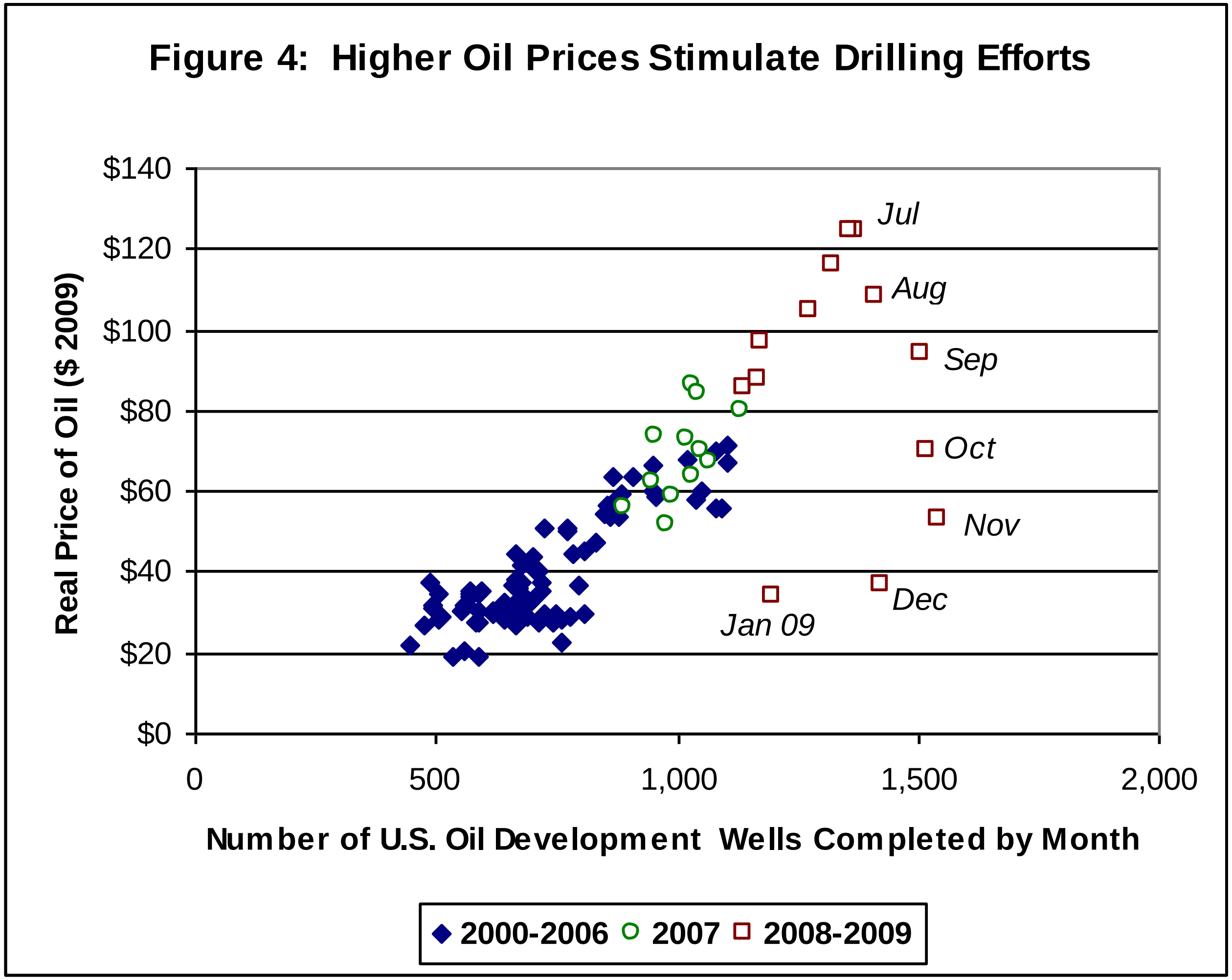
- The 2008 price spike was not accompanied by the telltale signs of a speculative change in commercial expectations.
- Inventories were stable, or slightly declining, not increasing as would be expected.
- Development drilling accelerated strongly during 2008, instead of slowing as would be expected.

US Crude Oil Stocks (excluding SPR)



Source: Energy Information Administration

Producers Did Not Create the Price Spike



Source: Energy Information Administration

Summary and Conclusions

- **Our nation's long history of misperceiving the impact of futures markets and speculative trading argues against reactionary reforms to the 2008 price spike.**
- **Arguments built on the "quantity theory of futures" are without support in theory or practice.**
- **The spot market for oil, and price, would have been affected if expectations of future shortage were fed by futures trading, but there are no signs of that.**

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Thank You!