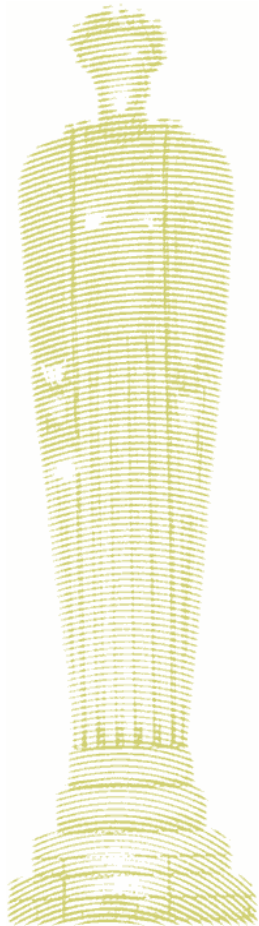
“Commodities at the Crossroads: Where to Now?”
Presentation to Chicago QWAFAFEW
at UBS on May 31, 2006



Ms. Hilary Till of Premia Capital Management, LLC
http://www.premiacap.com

Presentation Outline

I. Performance Review

II. Drivers of Commodity Returns

III. Structural Change in the Crude Oil Markets

IV. What Can Investors Expect Going Forward?

V. Conclusion

Icon above is based on the statue in the Chicago Board of Trade plaza.

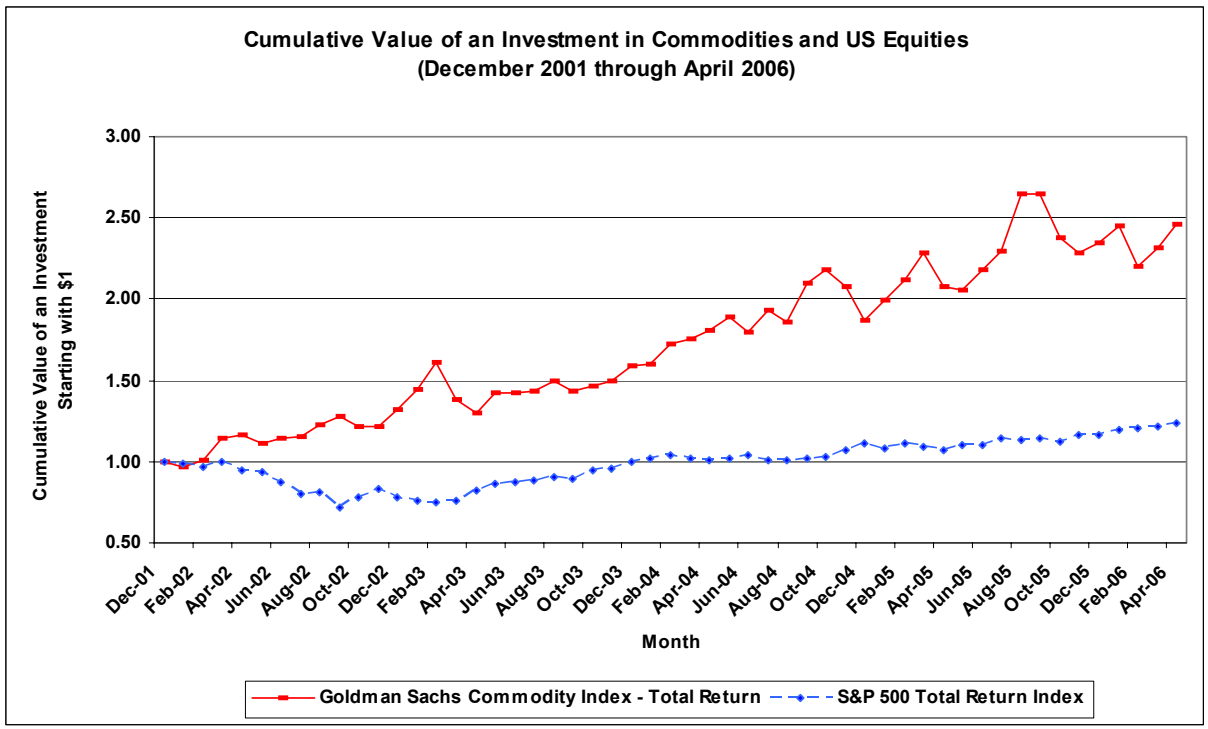
Icon on the cover page is based on the Ceres statue on top of the Chicago Board of Trade.

Based on Till (2006).

I. Performance Review

From December 2001 to April 2006:

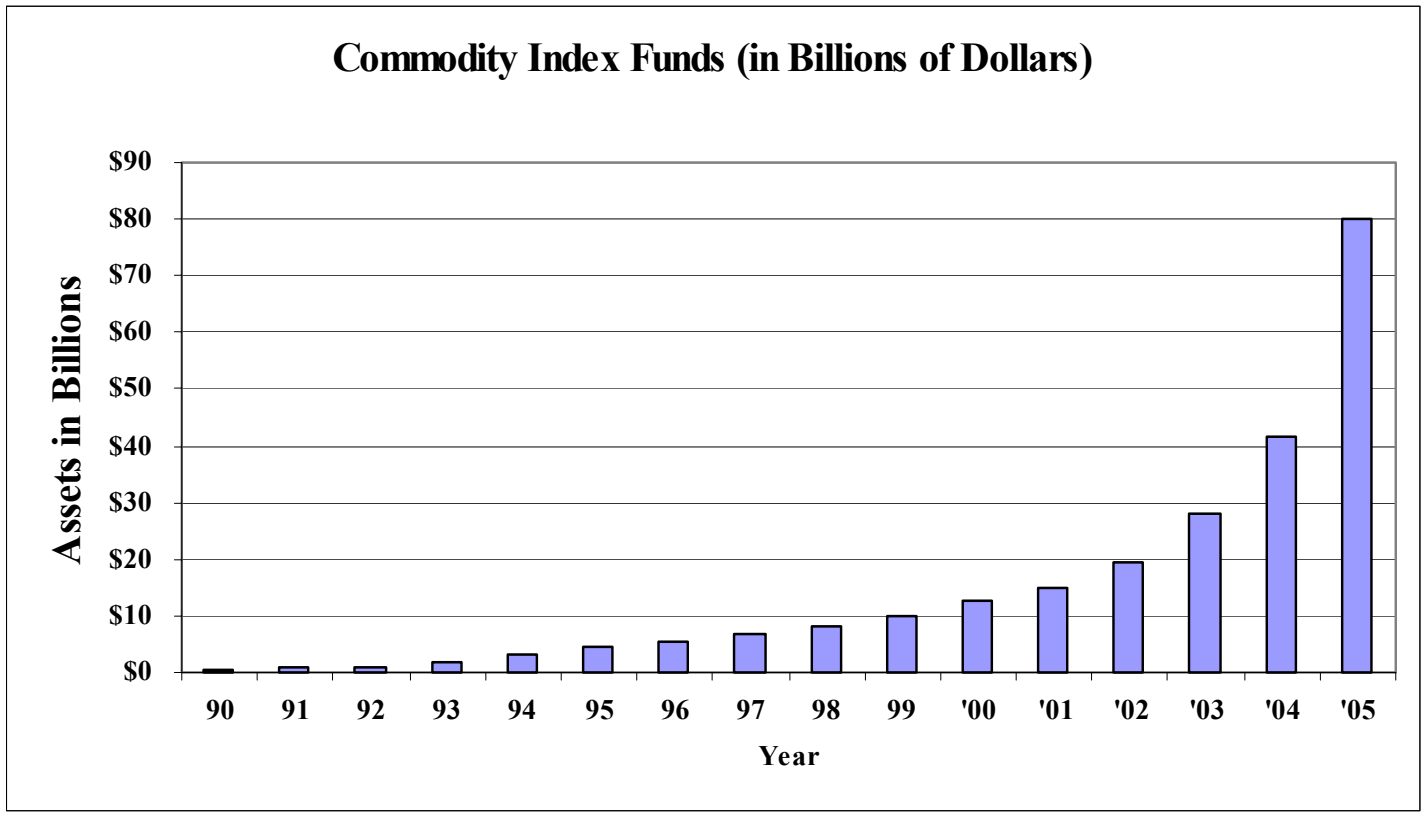
- **GSCI returns: +23.1% per year**
- **S&P 500 returns: +4.9% per year**



Source: Bloomberg.

I. Performance Review

Passive: the New Active



Source: Meir and Demler (2006).

"Passive: the New Active" is paraphrased from an advertisement from Barclays iShares.

I. Performance Review

Factors Supporting Positive Performance

- **Adverse supply shocks resulting from the aging energy infrastructure in the U.S. and Europe; and**

- **Expanding demand particularly from China.**

Bas-Relief adornment on an utility building at Dearborn and Washington in Chicago. Photo by Hilary Till and Barry Feldman.

Source: Till and Eagleeye (2005).

II. Drivers of Commodity Returns

Historical Perspective

Inflation-adjusted commodity prices have largely been in secular decline with a great deal of cyclicality around this trend.

One could not rely on a commodity boom for profitability; instead one had to take into account the largely mean-reverting nature of spot commodity prices.

In the past, even if spot commodity prices declined, there was an additional way that the commodity investor could have a positive statistical expectation of profit – *the roll yield*.

II. Drivers of Commodity Returns

Term Structure of Commodities Futures Contracts

Examine the relative price difference of futures contracts across delivery months.

Two curve states:

1. ***Contango*** **- when the near-month contract is trading at a discount to more distant contracts; and**
2. ***Backwardation*** **- when the near-month contract is trading at a premium to more distant contracts. This occurs when there are low inventories for a commodity and so consumers are willing to pay a premium for the immediately deliverable contract.**

Bond investors could relate these concepts to "negative carry" and "positive carry" respectively.

Source: Till (2000).

II. Drivers of Commodity Returns

Two sources of returns in a *backwardated* futures market:

1. **Being on the correct side of a potential price spike by being long the near-month contract; and**

2. **Positive roll yield - the yield derived when a futures contract converges, or "rolls up," to the commodity's spot price.**

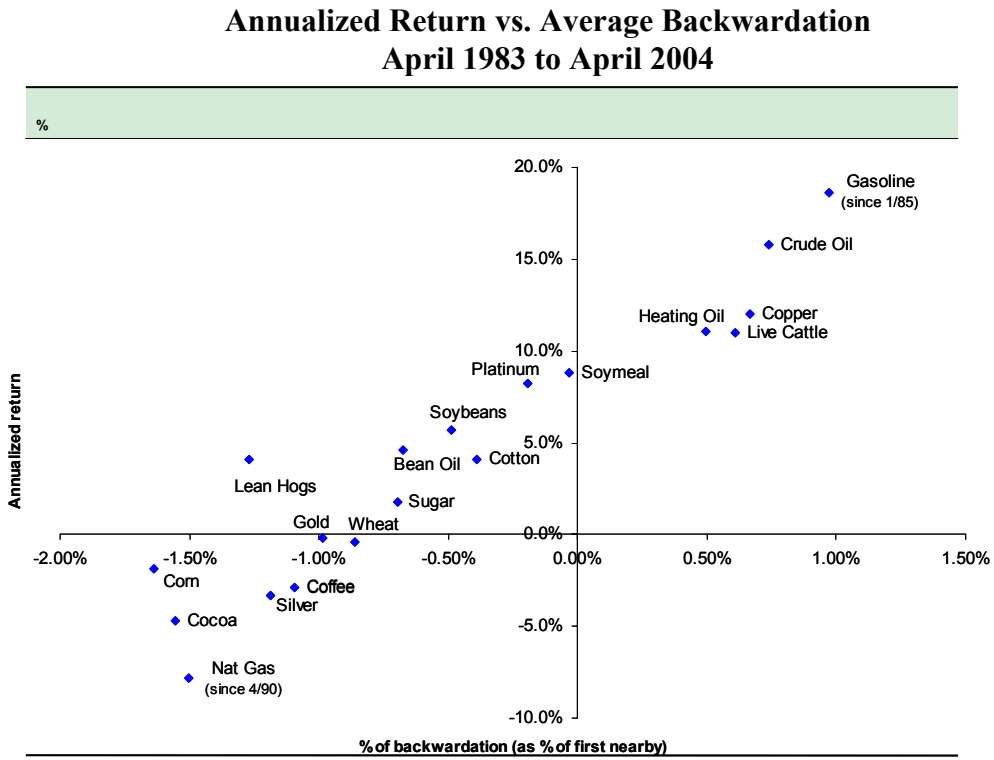
II. Drivers of Commodity Returns

Over *very* long timeframes, a number of authors have shown how the term structure of a commodity futures curve has been the dominant driver of returns in futures investing.

Trends in the spot price of a commodity have generally *not* been a meaningful driver of returns over long periods of time.

II. Drivers of Commodity Returns

Over a single 21-year timeframe, the returns of a commodity futures contract have been linearly related to how backwardated the contract has been.



Note: The contracts that typically trade in backwardation (gasoline, crude oil, copper, heating oil, and live cattle) had the highest average returns over the period, 1984 to 2004.

Source: *Nash and Shrayer (2004).*

II. Drivers of Commodity Returns

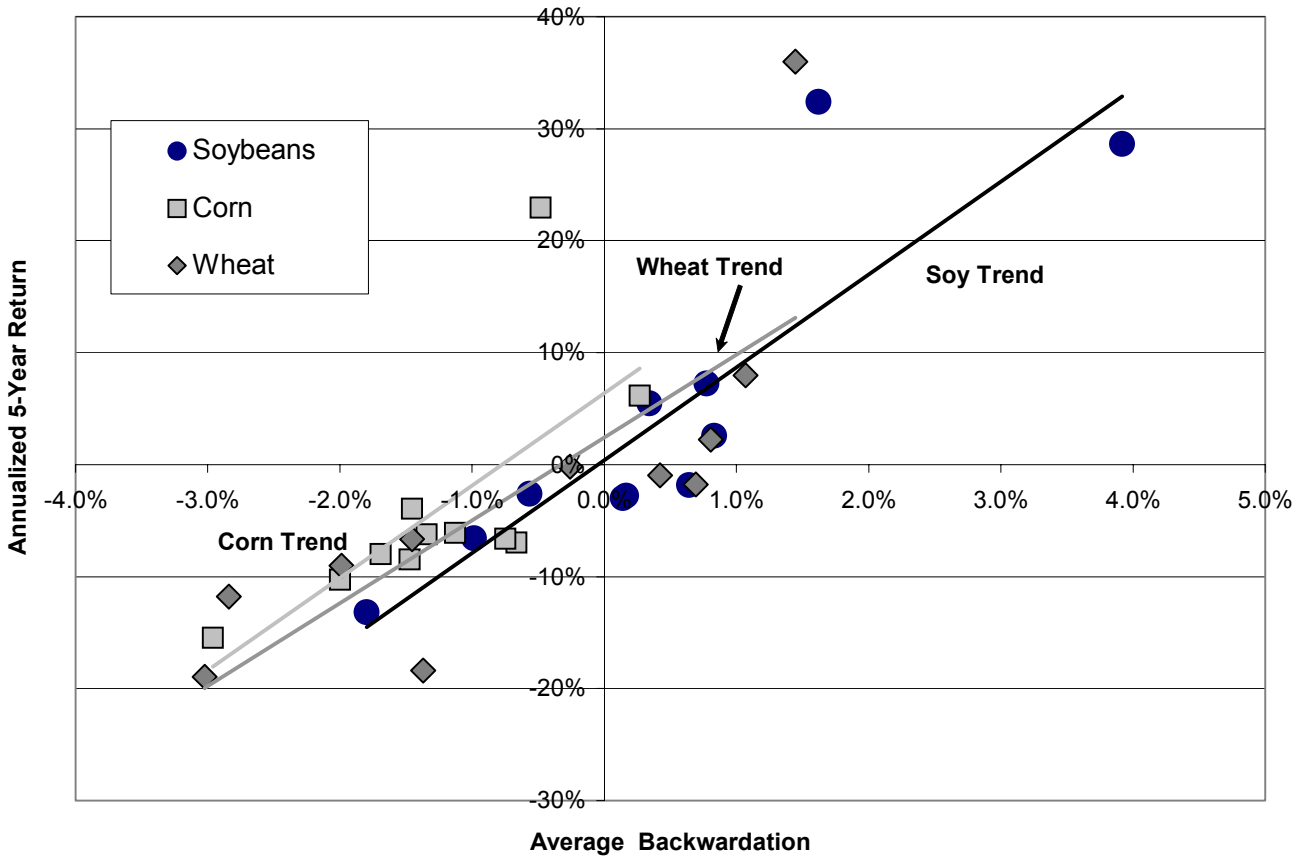
Feldman and Till (2006) find evidence that the power of backwardation to explain commodity futures returns is indeed valid but requires a *long* investment time horizon.

- **We examined the soybean, corn, and wheat futures markets over the period, 1950 to 2004.**
- **The contract's average level of backwardation only explains 24% of the variation in futures returns over 1-year timeframes and 39% of variation over 2-year timeframes.**
- **Once one extends the evaluation period to five years, the average level of backwardation explains a more meaningful 64% of the variation in futures returns.**

Source: Feldman and Till (2006).

II. Drivers of Commodity Returns

Five-Year Annualized Excess Return vs. Average Backwardation (1950 to 2004)



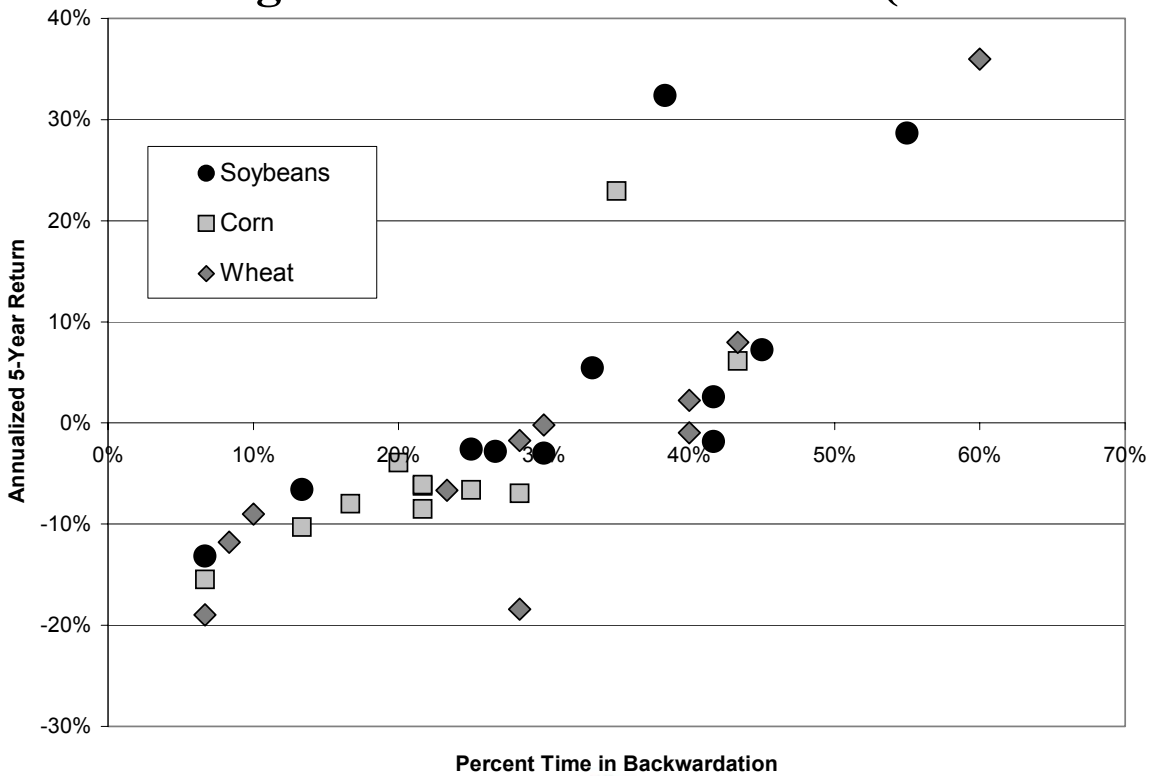
Source: Feldman and Till (2006).

II. Drivers of Commodity Returns

Similarly, over 5-year time horizons, the relationship of annualized return to a contract's average time in backwardation is highly linear:

Five-Year Annualized Excess Return vs.

Average Time-in-Backwardation (1950 to 2004)



Source: Feldman and Till (2006).

II. Drivers of Commodity Returns

Excessive Monetary Stimulus: The 1970's Revisited

Note the data points in the previous slide that do not fit the nearly linear trend lines.

This is the exceptional 1970-to-1974 period.

There can be an additional fundamental rationale for a long-term passive investment in a commodity futures contract *besides* structural backwardation, and that is that one expects the factors are in place to repeat the 1970-to-1974 experience.

II. Drivers of Commodity Returns

Excessive Monetary Stimulus: The 1970's Revisited

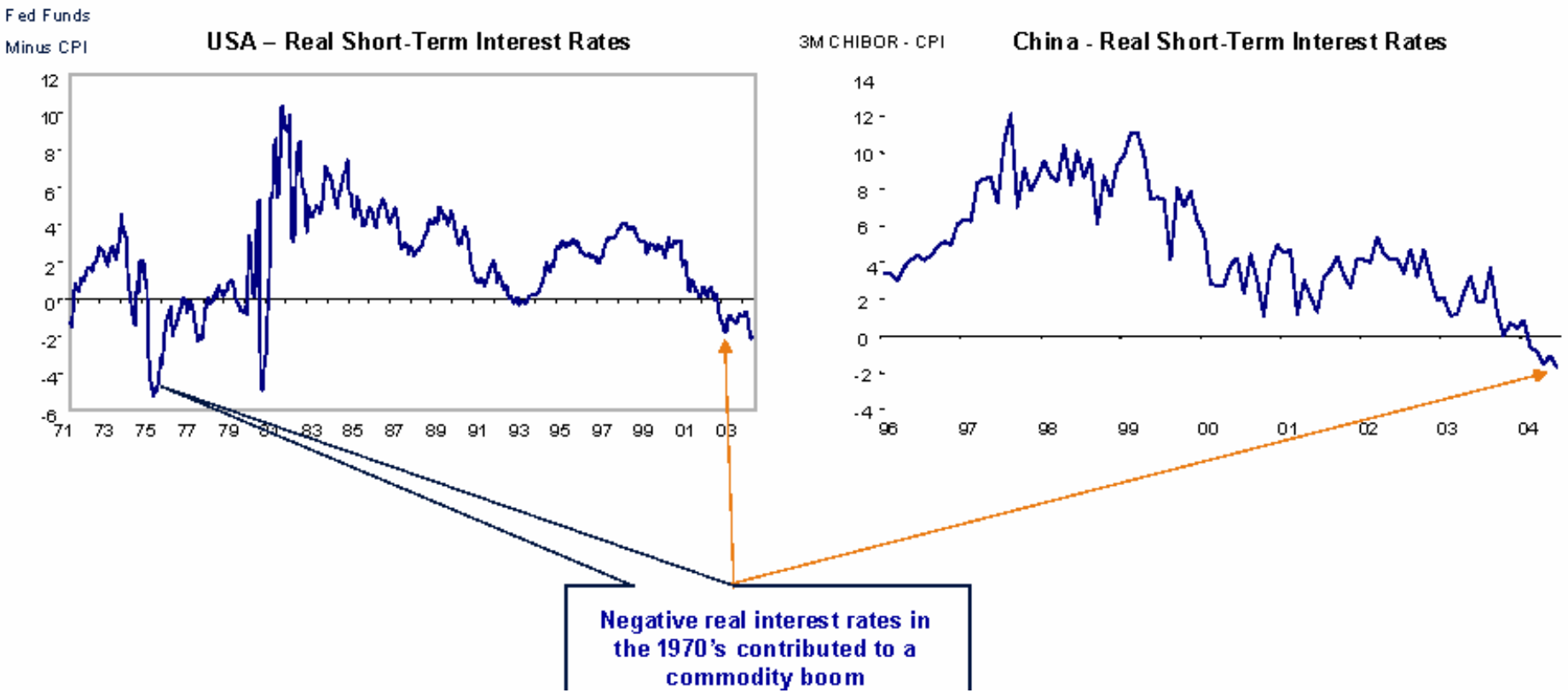
Excessive monetary stimulus has contributed to high returns of commodities in the past.

Specifically, the negative real interest rates in the 1970's contributed to a commodity boom at the time.

Source: Howell (2005)

II. Drivers of Commodity Returns

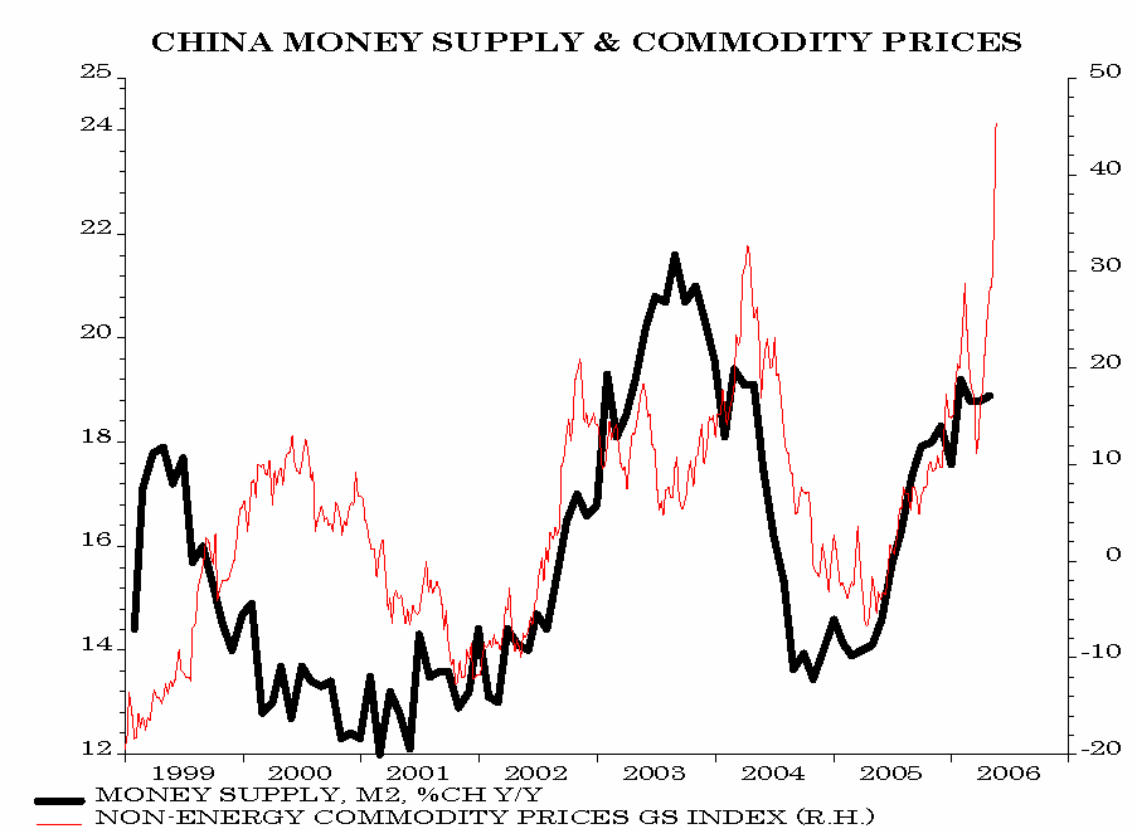
Excessive Monetary Stimulus: The 1970's revisited



Source: Howell (2005), which was derived from an analysis by Geoff Blanning of Schroders Alternative Investments.

II. Drivers of Commodity Returns

Monetary Stimulus and Commodity Prices: The 1970's revisited



GFC Economics: http://www.gfceconomics.com.

Source: Turner and Thompson (2006).

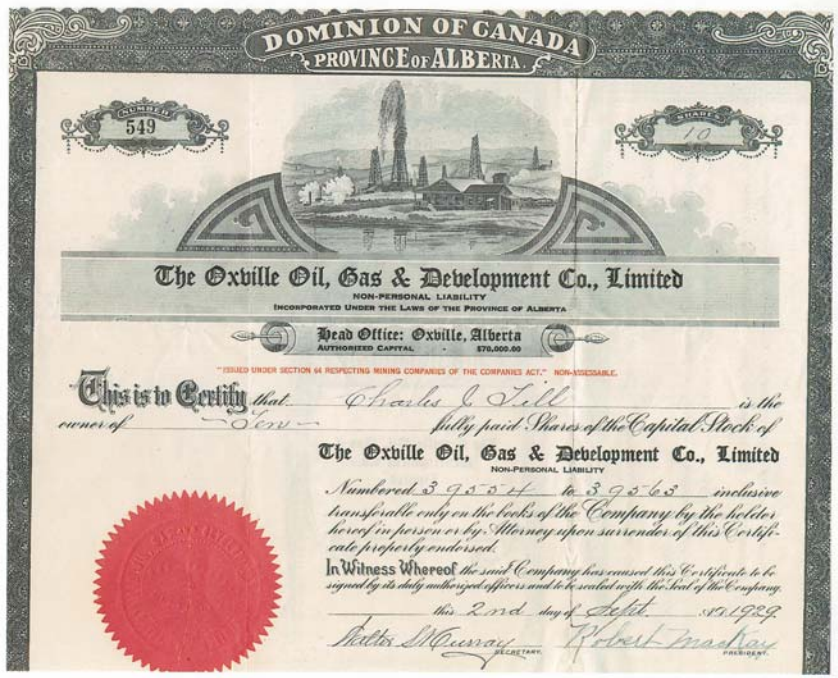
III. Structural Change in the Crude Oil Markets

Historically, crude oil futures have typically traded in backwardation, and this has been a reliable indicator of scarcity in the market.

However, in the past 12 months, a surprising contradiction has emerged:

- **Crude oil futures prices have rallied to record highs while the futures curve shape has traded in persistent contango.**

- ***What has changed?***

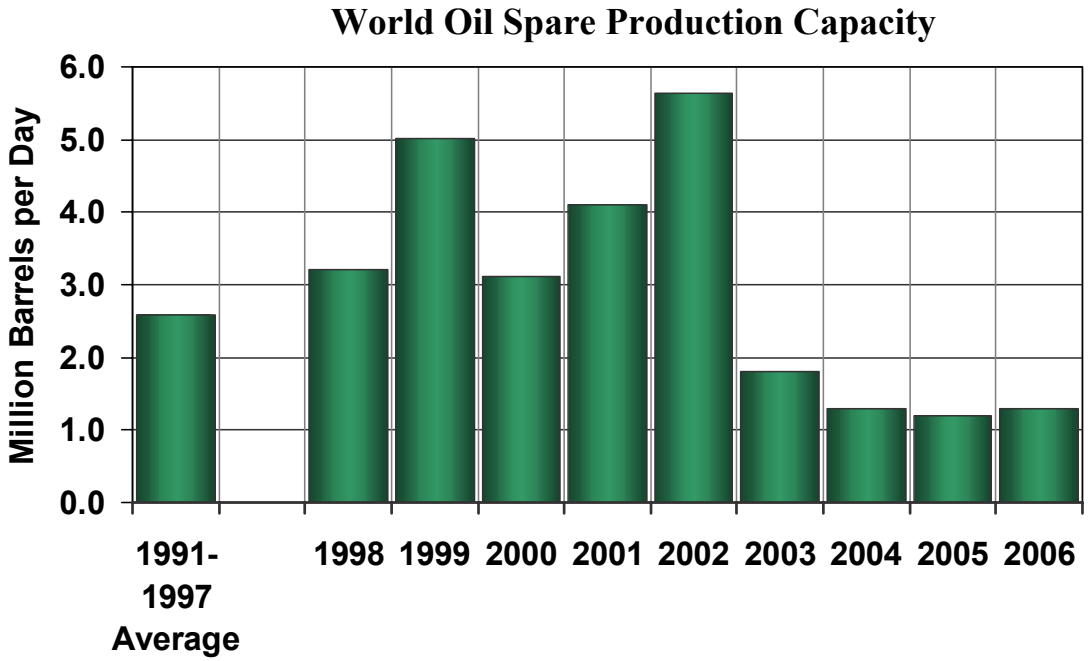


1929 stock certificate for crude-oil-development company in Alberta, Canada.

III. Structural Change in the Crude Oil Markets

One significant change in the oil markets has been the recent reduction in spare capacity in the global production of oil.

As a consequence, there has been a large increase in precautionary stock building, leading to a persistent contango in the oil futures markets.



The 2005 and 2006 figures are projected. Spare capacity hit its lowest level in 30 years in 2004; little increase expected in 2006.

Data Sources:
History: EIA.
Projections: Short-Term Energy Outlook, June 2005.

Source: Schwab (2006).

III. Structural Change in the Crude Oil Markets

Question:

In the absence of oil producers building up spare capacity *and* in the absence of alternative energy sources effectively replacing oil usage, how can supply and demand become balanced?

Answer:

Likely through demand destruction, which would occur because of dramatic oil price spikes.

Rembrandt's *Storm on the Sea of Galilee*, Isabella Stewart Gardner Museum, Boston, and Cover of Against the Gods: The Remarkable Story of Risk by Peter Bernstein, John Wiley & Sons, 1996.

Source: Murti et al Goldman Sachs (2005a).

III. Structural Change in the Crude Oil Markets

Long-Options-Like Profile

Returns to energy-focused commodity investments could become ever more long-option-like.

Investors will pay away option-like *premia* in the form of negative carry due to the persistent contango in oil markets, but will, in turn, be positioned for price spikes UNTIL an adequate supply cushion reemerges in the oil markets.

IV. What Can Investors Expect?

One would expect that eventually a supply cushion will reemerge due to:

- **Consumer behaviorial changes; and**
- **New infrastructure.**

But because of the long-lead times for large-scale energy projects, this may not occur until the end of decade.

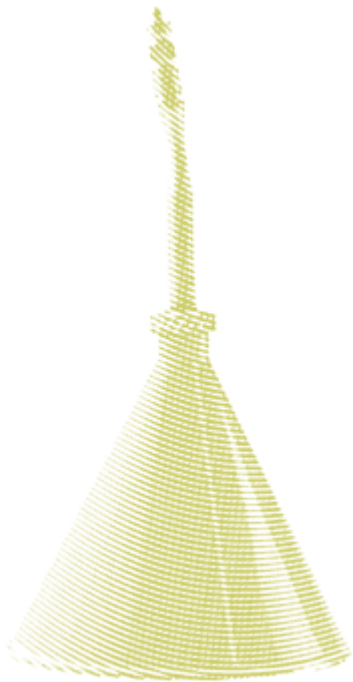
It is at that time that oil spot-prices may dramatically mean-revert, which would confirm Feldman and Till (2006)'s study that a curve indicator can only be expected to be reliable at very *long* timeframes.

Source: Murti et al Goldman Sachs (2005b).

V. Conclusion

For now though, until excess capacity in the oil markets is built up again, oil markets may be in continuous crisis …

… resulting in a "major bull market (that is) sustainable for…years."



Source: Fusaro (2005).

References

Feldman, Barry and Hilary Till. "Separating the Wheat from the Chaff: Backwardation as the Long-Term Driver of Commodity Futures Performance; Evidence from Soy, Corn, and Wheat Futures from 1950 to 2004," *EDHEC-Risk Publication*, http://www.edhec-risk.com, 2006.

Fusaro, Peter. "The Intersection of Hedge Funds and the Energy Markets," Presentation to the Executive Risk Officers' Assembly, Professional Risk Managers' International Association. Chicago, 27 April 2005.

Howell, Robert. "Investment Seminar on Commodities," Schroders Alternative Investments Group. Gstaad, February 2005.

Meir, Edward and Fred Demler. Man Financial, May 2006.

Morrison, Kevin. "Commodities Boom Raises Fears," *Financial Times*, 30 March 2006, p. 31.

Murti, Arjun N., Brian Singer, Luis Ahn, Jonathan Stein, Ashwin Panjabi, and Zachary Podolsky. "Super Spike Period May Be Upon Us: Sector Attractive," *Goldman Sachs Global Investment Research,* 30 March 2005.

Murti, Arjun N., Brian Singer, Luis Ahn, Jonathan Stein, Ashwin Panjabi, and Zachary Podolsky. "Oil Bull Market in the Early Part of its Middle Phase," *Goldman Sachs Global Investment Research,* 12 December 2005.

Nash, Daniel and Boris Shrayer. "Morgan Stanley Presentation," IQPC Conference on Portfolio Diversification with Commodity Assets. London, 27 May 2004.

Roach, Stephen. "The Lessons of 2005," *Global Economic Comment*, Morgan Stanley, 3 January 2006.

Schwab, Matthew. "World Oil Spare Production Capacity," AIG Financial Products, 2006.

Till, Hilary. "Trading Scarcity," *Futures Magazine*, October 2000, pp. 48-50.

Till, Hilary and Eagleeye, Joseph. "Challenges in Commodities Risk Management," *Commodities Now*, September 2005, pp. 45–50.

Till, Hilary. "Predict the Future in Commodities: Nobody Has a Crystal Ball, But an Examination of the Drivers of Commodity Returns Can Help," *Global Alternatives Magazine*, 2006.

Turner, Graham and Rupert Thompson, "Daily Commentary," GFC Economics, http://www.gfceconomics.com, 16 May 2006.

Degas, Edgar, "The Cotton Exchange at New Orleans," 1873, Musée Municipal, Pau, France.

Presentation Prepared By Katherine Farren, Associate, Premia Capital Management, LLC.

For more information on Chicago QWAFAFEW, please visit http://www.qwafafew.org/chicago.