Long-Only Commodity Indexes Fall Short

One of the more common and unfair objections made by non-futures traders about futures markets is they do not reflect the underlying economic value of the commodity in question. Words like “speculation” and “manipulation” are tossed about as if they were talismans of rectitude, and when the noxious slingers are ready to move in for the kill, be prepared to hear something about “well, I heard that only 3% of contracts ever go to delivery!”

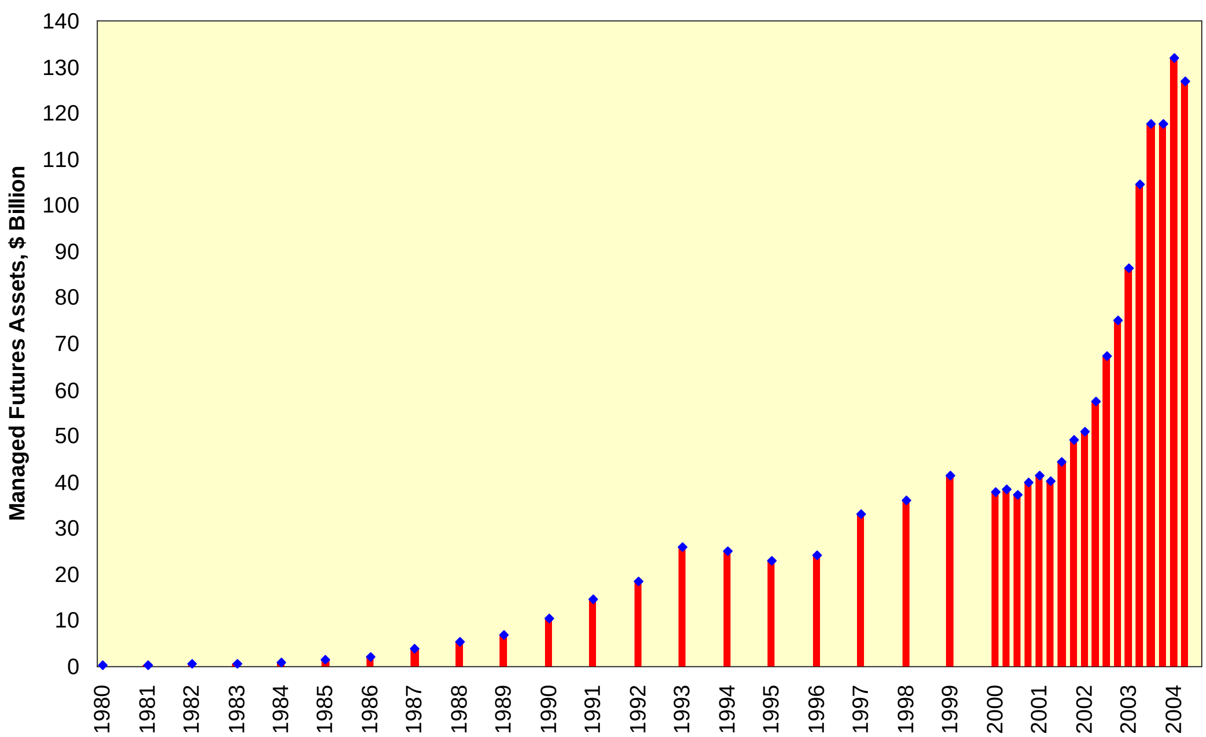
We certainly can make hay with these straw dogs; the infelicity of the critics’ jabs can be demonstrated by pointing to stock indexation. After all, a stock contained within a major index is bought and sold all the time without regard to its fundamentals. Commodities are not subject to such extraneous forces – or are they? They are, and this new reality will affect every market you trade.

Enter The Long-Only Index

Conventional investment assets such as equities, fixed-income or real estate all possess a natural return stream such as dividends, coupons or rents. Professional futures traders (Commodity Trading Advisors, or CTAs) came to the fore in the late 1970s not with the promise of managing a portfolio of diversified assets replete with a natural return stream, but rather of trading futures from both the long and short side, generally on a systematic basis. You were betting on their skill as a trader, not on any property intrinsic to commodity futures themselves.

This type of CTA still exists and flourishes on occasion. They have been joined by a new entrant into the market, the indexed long-only investor. The motivations and requirements of these investors will be discussed below. The net result of institutions’ arrival has been a flood of money. According to data provided by Barclays Group and depicted below, CTA assets under management have more than tripled in less than three years.

Chart 1: A Post-Millennial Phenomenon



Indexers take an approach unfamiliar to seasoned futures traders, many of whom have “Born To Go Short” tattooed somewhere upon their person. Instead of making decisions on whether to go long or short a given market, or to be out of it altogether or to be spread, indexers simply buy and hold a basket of commodity futures in the weights dictated by the index’ construction. It matters not which index is used; they all follow the same general concept.

This strategy has three sources of return: The return on the collateral, any price appreciation and the cumulative convenience yield of each commodity future’s forward curve. The return on collateral is a little different than the familiar interest earned on margin accounts. If an index calls for, say, a $10 million allocation in copper, the entire $10 million is posted into an interest bearing account, not just the requisite margin amount. Full collateralization eliminates leverage – ironically one of the attributes of futures speculators long have found attractive – and also eliminates the potential for a margin call once the position is established.

Price gains and losses are self-explanatory. Incredibly to many, price gains are the most ephemeral and least reliable source of return. With rare exception, such as the recent crude oil-led drive higher in the commodity indices, commodity prices remain static or fall for long periods of time. A bet on stock prices rising over time is a good one as it is largely equivalent to a bet on the economy growing over time. A bet on commodity prices rising over time amounts to a bet on lower economic efficiency over time – that is the meaning of factor input prices such as those of commodities rising – and this bet against human ingenuity seldom succeeds. Crude oil, which is extracted and cannot be recycled, may be the one exception to this characterization of commodities.

Roll With The Changes

The third source of return, convenience yield, can be defined in two different ways. The first is the expected return a buyer of a deferred futures contract trading below "fair value," or the spot market price plus all financial and physical costs of storage will realize if the contract is held to expiration and the spot price does not change. It is also the insurance premium a risk-averse seller is willing to pay by selling production forward at a price below that fair value.

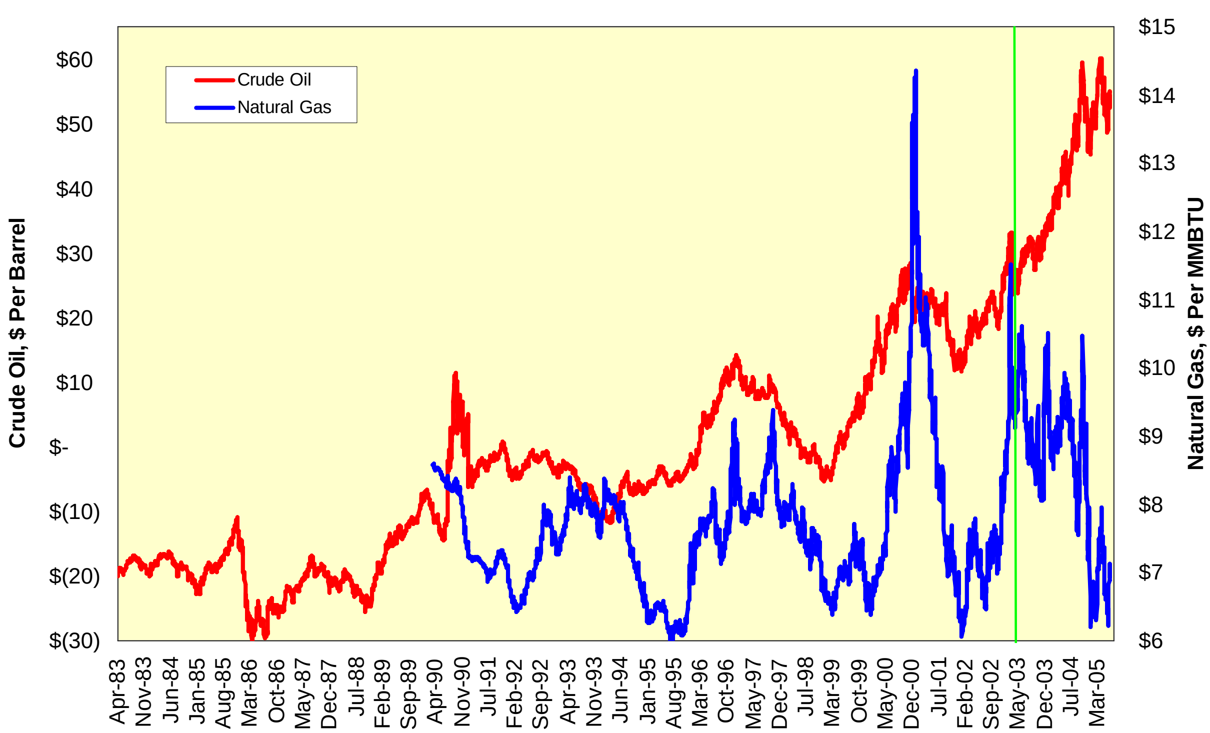
This convenience yield is captured by buying a deferred contract, holding it until some period prior to expiration, and then rolling it forward into another contract month. If the forward curve remains backwardated (inverted), the seller of this roll will realize a profit. If, however, the deferred contract is priced over the spot contract at the time of the roll as it will often be for easily storable commodities such as grains, tropical softs or for commodities with pronounced seasonality such as natural gas or heating oil, the trade will lose money.

The results can be quite dramatic over long periods of time. Let's illustrate the cumulative effect of the convenience yield strategy over a long period of time for both crude oil and natural gas. The May 2003 end of active conflict in Iraq is marked for reasons to be discussed later.

In both cases, the front-month contract will be sold seven days after the start of the expiration month and replaced with the second-month contract. Different roll horizons can be used. As an aside, the contract rolling window is one of the hot topics in the commodity index world right now; it has arisen as such to address one of the problems we will see shortly. This is what happens when a concept with no *a priori* theoretical underpinnings encounters reality.

Chart 2: Backward-Adjusted Futures

Roll Seventh Day Of Expiration Month



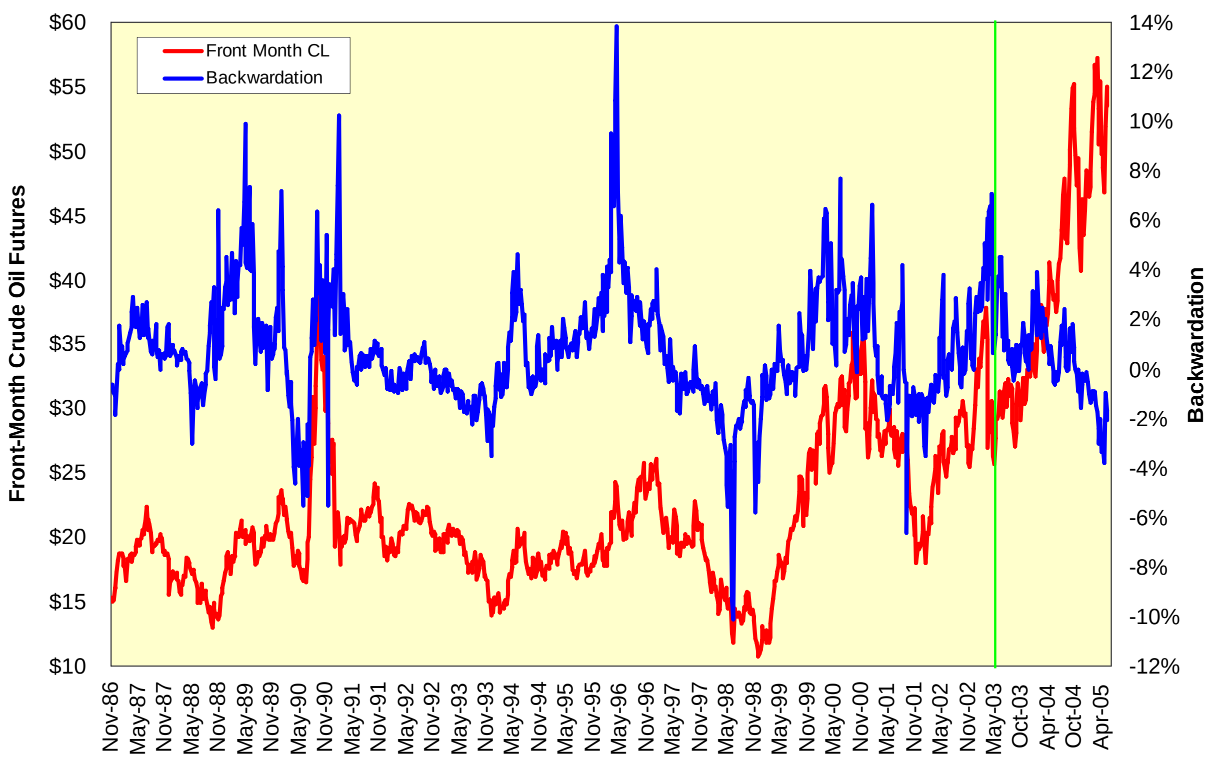
A glance at the comparative equity paths of the two series illustrates what happens when a commodity is not in backwardation, a far more common occurrence than proponents of long-only indexation are willing to allow. Backwardation arises under a special set of circumstances, including a commodity whose cheapest storage is in the ground with the producer, a commodity whose supply chain is logistically constrained and whose demand is given to sudden surges. Backwardation also arises when both buyers and sellers agree the present price is unsustainably high. Crude oil and some of the industrial metals, copper in particular, often fulfill these requirements. Nearly all others do not, including the highly seasonal natural gas and heating oil contracts.

Cash natural gas prices have increased more over the past decade than those for any other commodity. The return on natural gas futures rolled mechanically as above has been lower than that for any other commodity. Crude oil's total return over the period illustrated has been far more of a function of harvesting the convenience yield than of price increases. In fact, the combined power of crude oil's price increases plus monthly roll yield accounts for all of the gain in commodity total return indices since 1994. Not some of it, all of it. This, alas, is about to draw to a close.

Nothing in the world of crude oil trading was as much of a given as backwardation increasing when prices rose and backwardation decreasing or falling into a contango structure when prices fell. This was as it should have been; financial theory does in fact hold commodity futures whose cheapest storage is with the producer should see the front-month contracts rise more than the back months in a bull market. The opposite is true for commodities such as precious metals and both grains and softs within a crop year: The back-month contracts should rise more than the front months in a bull market. The implications of this reality are devastating for commodity indices containing a good slug of anything but naturally backwardated commodities.

This verity ended in May 2003. Even as the price of crude oil continued to rise, backwardation levels fell and moved into the contango we see today. Two reasons are given for this break in historic pattern. The first is the resignation of the market to high crude oil prices for the foreseeable future; producers were no longer interested in forward hedging, and refiners no longer maintained their minimal inventory policies. The second is the growth of the long-only indexed commodity fund.

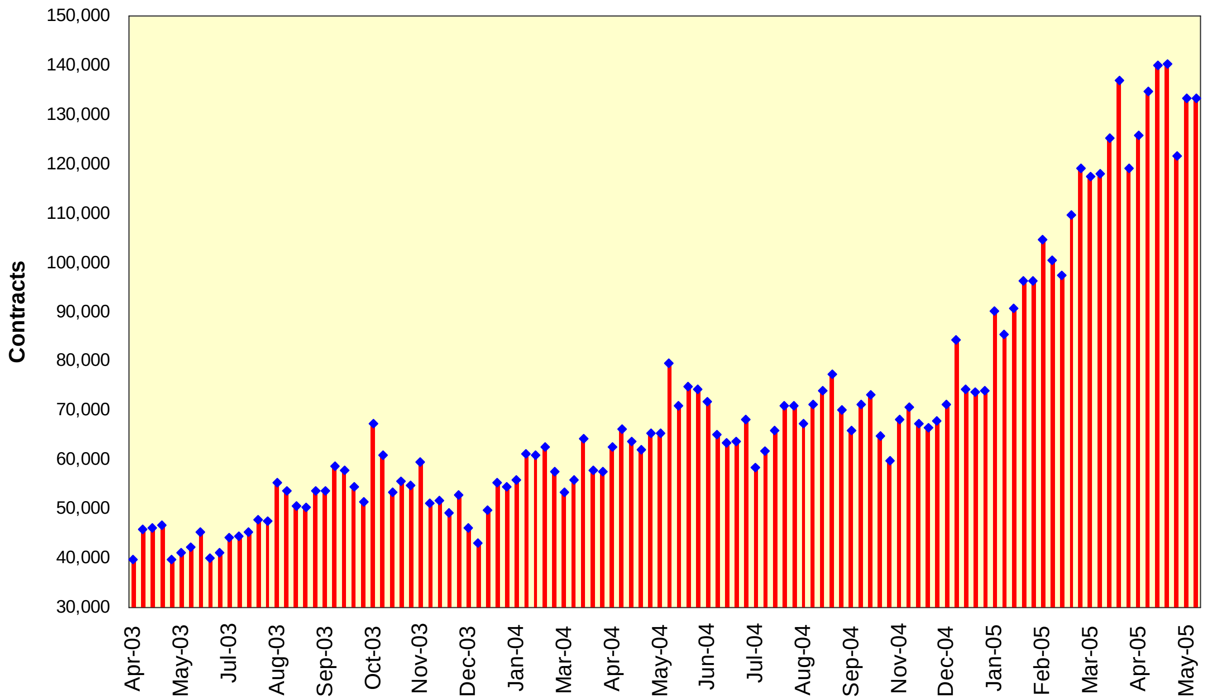
Chart 3: A New Era In The Crude Oil Market



The Secret Got Out

Backwardation is not a property intrinsic to any given market. No trader has a right to expect it as a reward for deciding to invest in a long-only commodity index. Patterns in markets work until they are recognized, which is usually pretty quickly. The indexers adopted the advertising strategy of telling the world what they were going to do, when they were going to do it, and in what size. Unsurprisingly, counterparties to this trade responded rationally by engaging in a preemptive roll, selling the front month and buying the deferred month, prior to the arrival of the regular index rollers. We can illustrate this by charting the Commitment of Traders data provided by the CFTC for non-commercial spread positions in crude oil. They have risen continuously over the post May 2003 period.

Chart 4: CFTC Commitment Data
Non-Commercial Crude Oil Futures Spreading

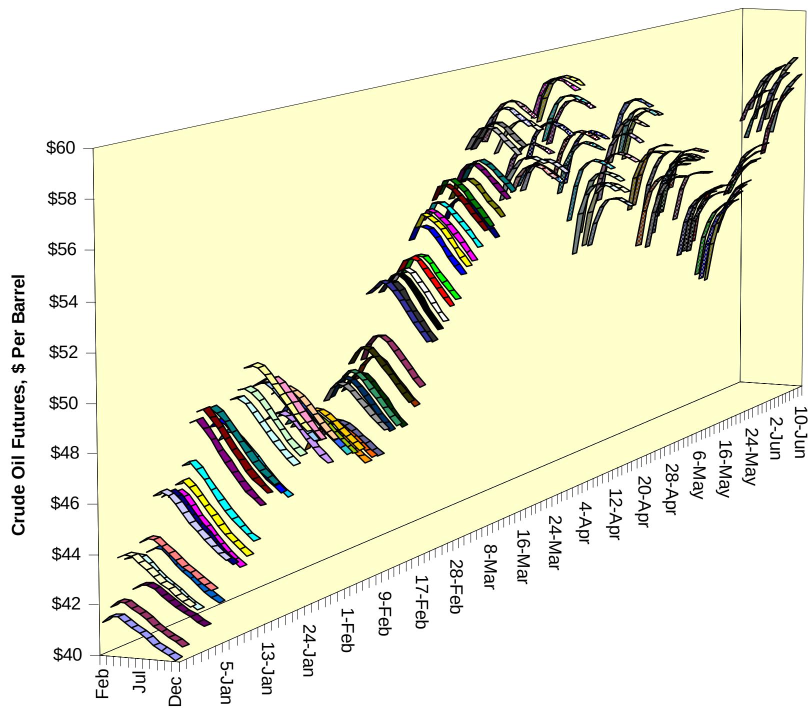


The net result of long-only indexed money coming into commodities markets and intersecting with financial strategists willing and able to take the other side of their trades is an inevitable distortion of the forward curve and quite possibly of price levels themselves. The role of a price and of a forward curve or yield curve is to send signals back to both buyer and seller. If the trade dynamics alluded to above are in effect, the implication is both buyer and seller are going to be acting on erroneous signals.

Higher prices for stocks do not dampen demand; in fact, we are all too familiar with stocks being easier to sell in a bull market than in a bear market. There are some supply effects associated with high stock prices, most notably the increase of initial public offerings during the late stages of a bull market. Neither statement is true for commodities: Higher prices not only affect demand in both the short-term and especially in the long-term, but supply responses begin almost immediately. In the case of crude oil, the high and rising price of crude oil prompted an immediate build of inventories. This inventory build pushed the forward curve of crude oil futures into increasingly deep contango levels throughout 2005 even as prices rose. In turn, the deepening contango permitted ever greater builds of inventories via the cash-and-carry arbitrage mechanism; refiners could buy crude and sell the more expensive back-month futures as a hedge and cover all of their storage costs.

If the mechanisms described operate as discussed above, we can thank long-only indexers for turning the largest physical commodity market in the world on its ear.

Chart 5: Contango Deepened Regardless Of Price



Indexers' Motivation

Why do indexers want to get involved in commodity indices? An answer offered commonly is they are a diversifying asset, as is a handful of dirt, but that somehow is an unsatisfying response. Diversification without return is pointless and certainly impoverishing.

A central problem faced by global investment managers right now is a growing demand for stable and long-term investment returns – think pension funds, life insurance and Social Security – and a growing shortage of reasonable sources from whence to derive them. Gone, for the time being, are the days when anyone could get double-digit returns in stocks simply by showing up and declaring fealty to the principle of long-term investing. A duplication of the fixed-income returns of the past two decades is virtually impossible mathematically, and real estate, as you may have heard, is not cheap.

The author recently made a presentation at a London conference on "Portfolio Diversification With Commodities." One of the prominent attendees was a pension fund manager from the Netherlands who had to generate returns equivalent to the wage inflation in the Dutch health care sector to meet his liabilities. Roll that one around your mouth a few times: Wage inflation in the unionized health care sector of a socialist country. European bonds are yielding just over 3% at the time of this writing, so this manager was looking at commodities.

How well do you trade when you have to make money?

But this manager could not trade as you would recognize trading. That would be unacceptable to his board. Thirty years after Burton Malkiel took his random walk down Wall Street, investors are convinced in the power of indices and investment analysts are addicted to benchmarking managers to those indices. Never mind the profound differences between stocks and commodities. It is an index, therefore it must be legitimate.

The related question of why commodity indices are long-only devices is related to the financial world's inherent bias against short positions.

The sad part of it all from the perspective of one who has been in the futures industry for more than two decades is commodities can and do have a place in investor portfolios if done properly. But commodities are and always will be held to a different standard, and a short-sighted bungling of the best opportunity ever to move into the front ranks of investments will lead to relegation to second-class status if and when traditional investments regain their footing.