

Commodity Investment: Impact on Energy Derivatives

The last four years have seen a dramatic growth in commodity index mutual and exchange traded funds (ETFs). According to Tim Guinness, of Guinness Asset Management, (Manager of the Investec Global Energy Fund) this expansion is due to both the sharp rise in commodity prices and relatively poor performance of equity markets in the earlier years of this decade.

Setting the Scene

The last four years have seen considerable growth in both assets and performance of commodity index benchmarked mutual funds and ETFs. From 2003, funds in the largest five commodity mutual funds and the largest seven ETFs have grown from under \$100 million (mn) to over \$18 billion (bn).

The background to this is the very strong rise in commodity prices since 1998 (see Chart 1) fuelled by, in particular, demand from China. Such high returns during a period when equity markets had to cope with a major correction have caused a number of

investors to argue the case for treating commodities as another asset class for those who are seeking diversification, and then to make the case that commodity markets are enjoying a sectoral bull market which, while it lasts, will offer much higher returns than investment in the more conventional asset classes such as equities, bonds or property.


Advocates of commodity investing argue that, historically, commodities markets have experienced long cycles lasting 15 to 20 years or more – and add that we are now 8 years into a bull market phase, following the 18 year bear market of 1981–1998. 

Chart 1: Historical Price Movements 1999 – 2006 for Front Month Futures Contracts

	Exchange	End 1998	End 2006	% Change
WTI Crude Oil	NYMEX	12.34	61.05	494.7
Heating Oil	NYMEX	35.14	159.79	454.7
Copper	LME	1439.25	6318.00	439.0
Natural Gas	NYMEX	2.07	6.30	304.3
Silver	CMX	4.90	12.82	261.6
Aluminium	LME	1229.00	2838.00	230.9
Gold	CMX	288.30	638.00	221.3
Corn	CBT	214.75	390.25	181.7
Soybeans	CBT	543.75	683.50	125.7

Source: Bloomberg

Negative Correlation with Equities

The perceived negative correlation between equities and commodities (see Chart 2) also provides a tool to diversify portfolios and increase performance and/or reduce risk. Indeed, in their research paper 'Facts and Fantasies About Commodities Futures' Professors G Gorton of Wharton and K G Rouwenhorst of Yale have recently shown that commodity returns are negatively correlated with equity and bond returns [1].

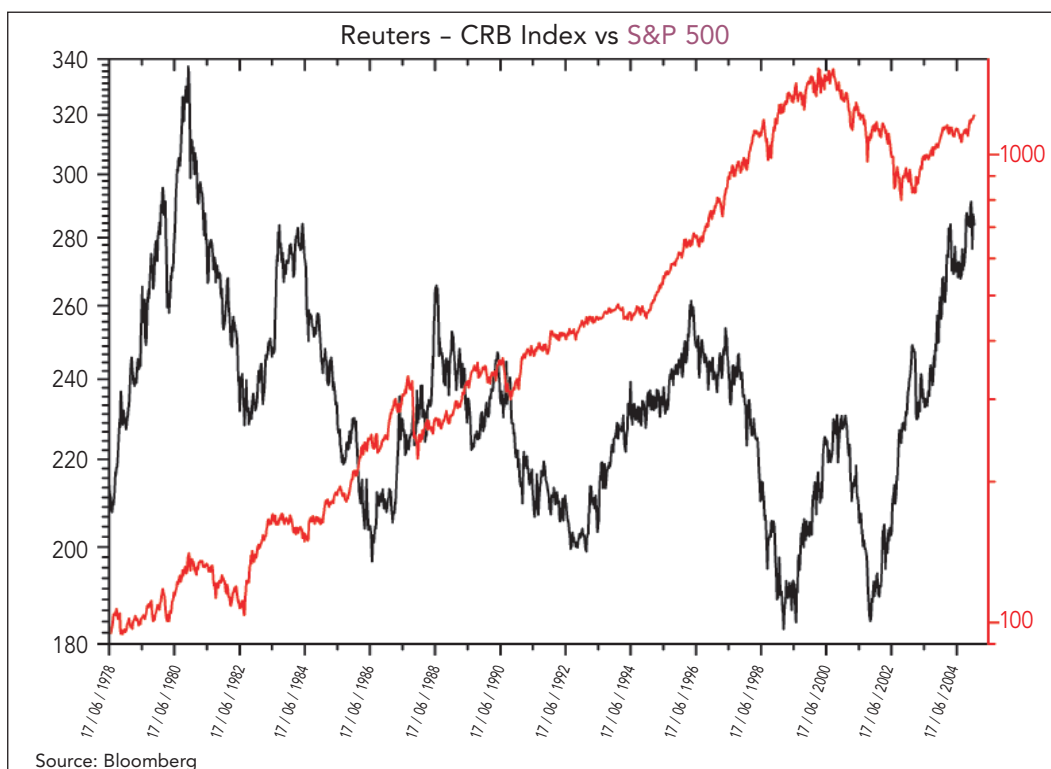
Traditionally, however, commodities have been difficult to gain exposure to for investors – futures trading, for example, demands high minimum trade sizes. The mutual funds and ETFs that have been established in the past 3-4 years have opened the doors of commodity investing to investors who previously only held more traditional asset classes.

Benchmarks Facilitating Investment

Over the years a number of indices have been established against which commodity investors can benchmark performance (see Chart 3). The Reuters-CRB index, an un-weighted spot price index, has existed since 1957. The Goldman Sachs index was established in 1992. The Rogers International Commodities Index and the Dow Jones-AIG Commodity Index were launched in 1998 and 1999, respectively.

These indices represent highly liquid and diversified benchmarks for the commodity futures market. Since 2000 a number of index-based mutual funds have been set up to take advantage of the commodity boom with current total invested assets of approximately \$16bn. A large percentage of these – c. 60% as estimated by J P Morgan in October ►

Chart 2: Historical Prices of Reuters – CRB Commodity Index and the S&P 500



2005 – are held by institutional investors such as pension funds.

The rate of investment into these funds has been rapid over the last three years but has slowed in 2006 (see Chart 4).

However, Fimat USA LLC, a securities and commodities brokerage, has predicted that commodities may attract as much as another \$25bn of investment in 2007, with most of that going into funds tracking indexes. ►

Chart 3: Performance of the Four Main Commodity Indices 1999-2006

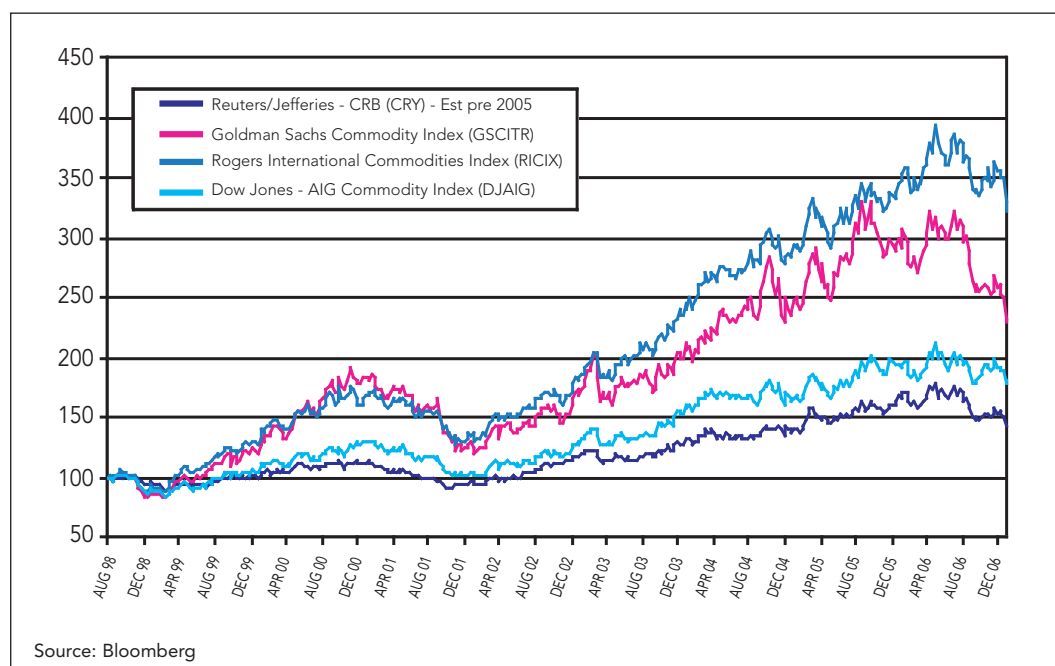
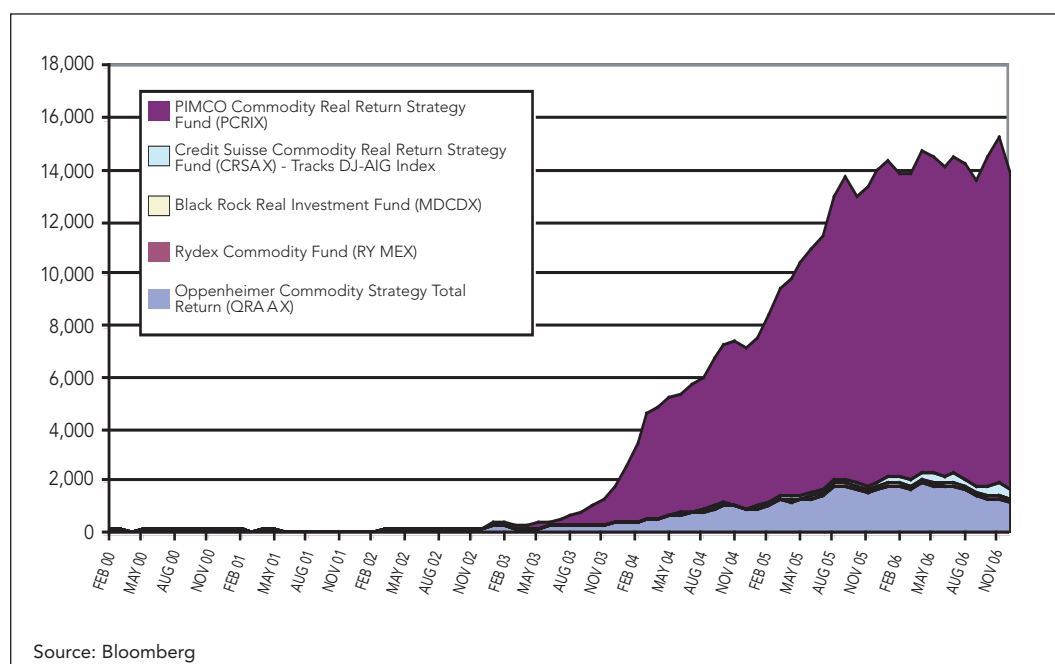


Chart 4: Index-based Mutual Fund Investment for Five Largest Funds

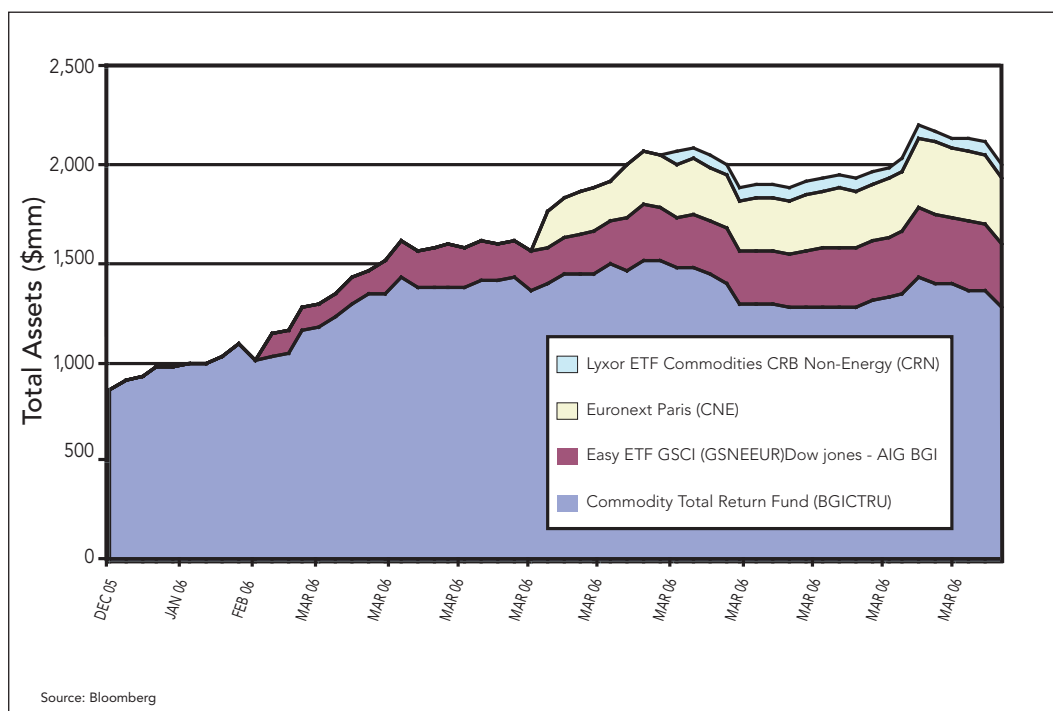


In addition to mutual funds, a number of ETFs have been set up to facilitate investment in commodities. European commodity ETFs account for approximately \$2bn of investment (see Chart 5) and US commodity ETFs account for approximately \$13bn. US investment is, however, dominated by the streetTRACKS Gold Trust (\$9bn) and the iShares Silver Trust (\$1.4bn) – leaving the non-precious metal commodity ETFs at only some \$1.6bn (see Chart 6).

Chart 6: Largest US commodity ETFs (excluding precious metals) at 7 December 2006

US ETF	AUM (\$bn)
Macro Securities Depositor Brent Crude	0.80
Powershares DB Commodity	0.71
i-Shares GSCI Commodity Indexed	0.13
Total	1.64

Chart 5: European commodity ETFs total assets under management



Hedge fund (as opposed to mutual fund) participation in the commodity sector is difficult to gauge, but J P Morgan recently attempted to estimate this by assuming a typical global macro fund would take a 10% position directly in commodities futures. Assuming a total of \$114bn of funds under management resulted in a rough estimate of order \$10bn of investment.



Growth in Energy Derivatives

Turning now to energy specifically: the flows into commodity funds have obviously meant flows into energy derivatives. The energy exposure of the main indices are 44% (RICIX), 33% (DJAIGTR), 39% (CRY) and 66.7% (GSCITR) (see Chart 7).

funds. In my mind these are significant levels of investment, but it is worth noting they are nowhere near the number of \$90bn that has had some airing in the press.

These flows have, to an extent, been reflected in the fact that open interest

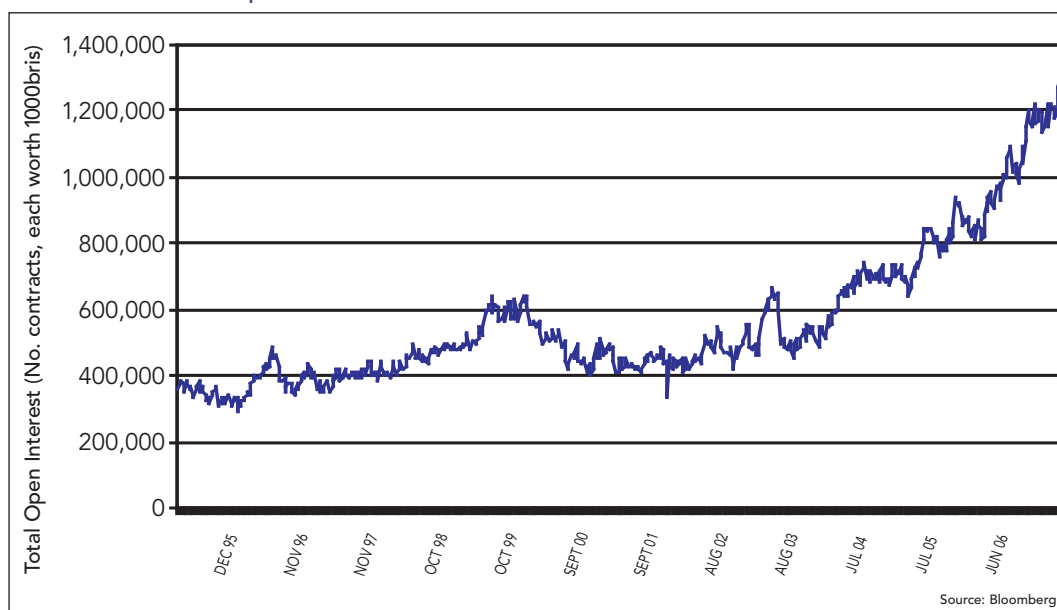
Chart 7: Breakdown of Main Commodity Indices

	Reuters/Jefferies - CRB Index (CRY)	Goldman Sachs Commodity Index (GSCITR)	Rogers International Commodities Index (RICIX)	Dow Jones - AIG Commodity Index (DJAIG)
Energy Constituents	WTI Crude 23	Crude Oil 33.2	Crude Oil 21	Petroleum 20
	Heating Oil 5	Brent Crude 33.2	IPE Brent 14	Natural Gas 13
	Unleaded Gas 5	Unleaded Gas 12	Heating Oil 1.8	
	Natural Gas 6	Heating Oil 5.5	IPE Gasoil 1.2	
		Gasoil 4.8	RNOB Gasoil 3	
		Natural Gas 8.4	Natural Gas 3	
Energy Total	39	66.7	44	33
Soft Commodities Total	40	19.5	34.9	39
Metals Total	21	13.9	21.1	28
	100	100	100	100

This implies a flow of funds from commodity mutual funds and ETFs into energy markets of some \$8 – 9bn out of the \$18bn of total assets under management. On top of that we have potentially, say, \$4 – 5bn from hedge

in the energy derivative markets has increased significantly over the last three years with, for example, the total open NYMEX crude oil futures contracts increasing from 0.5mn in 2000 to 1.3mn today (see Chart 8). ►

Chart 8: Total Open interest in NYMEX WTI Futures



Getting behind these numbers is not straight forward. NYMEX itself disaggregates them into commercial and non-commercial. Commodity index-based mutual funds are not included as non-commercial interest but instead fall into the commercial category. The number of commercial long futures within the above total has increased from 0.3mn to 0.8mn contracts over this period.

This increase of 0.5mn commercial long contracts represents an increase in underlying long oil exposure of 500mn barrels. This represents \$25bn at \$50/barrel and we would surmise some meaningful proportion of this reflects the \$8 – 9bn of commodity mutual fund and ETF energy related investment flows observed above – although it will be less than the headline figure as some of the positions will be taken in other energy

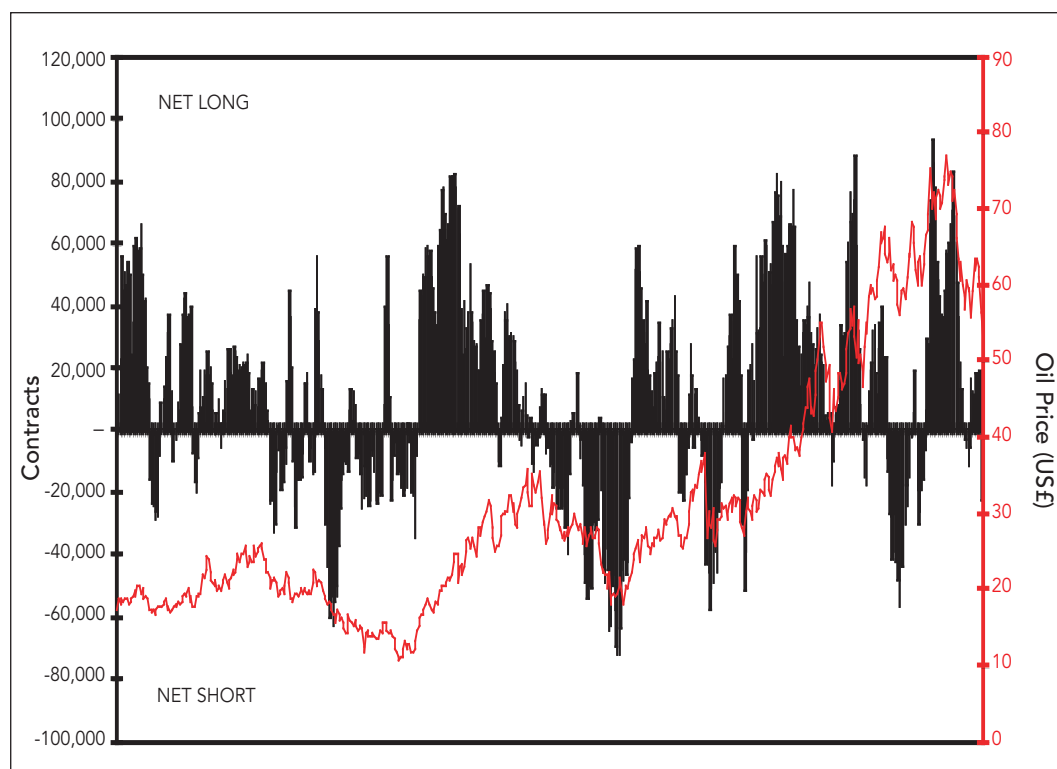
commodity contracts such as the London ICE energy futures market where Brent futures are principally traded (and no commitment of traders data is published). In mid January the total Brent open interest figure was about 0.6mn contracts.

Recent Market Trends

Turning to the NYMEX non-commercial futures, the net position is of greatest interest and, **as shown in Chart 9**, this has peaked four times in the last three years at 80,000 contracts net long. Again we might surmise this – a value at \$50/barrel of \$4bn could represent hedge fund positions. Not surprisingly recent big moves in the oil and gas prices have also been preceded by changes in the non-commercial net open interest.

The recent contango in the commodity markets, whereby prices close to

Chart 9: Net NYMEX Non-Commercial Open Interest and Oil (WTI) Price



delivery are less than for dates further away, has been attributed to increased investor interest. Larger positions in the open interest in longer dated contracts appears to be driving this contango further into the future and is artificially influencing producers to increase stockpiling of products.

The recent flows of investment into the commodity sector looks set to continue, despite recent falls of 15% over 2006 for the Goldman Sachs Commodity Index and 7.4% for the Reuters/Jefferies-CRB Index (**see Chart 3**). The long term prospects for economic expansion in China remains strong, underpinning demand and driving commodity prices well into the future. Index-based mutual funds may suffer from increased rollover costs arising from long term contango in the commodity markets, however, and some commodity-related investment may move more towards hedge funds, who are able to profit from any downward shifts in prices.

Some Conclusions

Some commentators have questioned whether this financial investor-driven expansion in energy derivative markets is such a good thing. They have argued it creates unwelcome volatility. Personally, I am convinced this thinking is incorrect. More participants are likely to lead to markets being less, not more, volatile and certainly more efficient. I see no convincing evidence from history (think of 1974, 1979, 1985, 1991, 1998) that markets are any more volatile than they were. The oil price rose eight fold in the 1970s from the average price of the 15 years prior to

1974. To date it has risen at its peak only some three fold from the average price of the 15 years prior to 2003. Regardless of volatility, however, the great merit of markets is they act to help companies and governments allocate resources rationally and to take better decisions. If commodities are becoming scarce, for an efficient and effective supply response it is important that prices rise to encourage new investment and the development of alternative energy sources.

Will the growth in energy futures and other derivatives continue? This will likely depend on how the future for energy and commodity prices unfolds. If those who believe, like me, that we are only part way through a long cyclical upturn in commodity prices are right, the growth in energy futures and other derivatives will continue for some time to come. This cycle appears to be driven by the demand growth from multiple emerging economies around the world, all of which have now entered the energy intensive stage of economic growth that seems to accompany the raising of GDP per capita from \$3,000 per head to \$10,000 per head. In my opinion this will not be over quickly. ■

[1] G Gorton and K G Rouwenhorst, *Facts and Fantasies About Commodity Futures*, *Financial Analysts Journal*, 62:47, March/April 2006.

