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# **Speculation in food commodity markets**

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## Introduction: Speculation and the food crisis

Numerous explanations have been given for the food price crisis. Soil quality is deteriorating, water is running short, some harvests have been poor and growing demand for meat increases the use of grains for animal feed. The increased rice yields of the Green Revolution are levelling out, while biofuels are taking up more and more agricultural land. All this has led world cereal stocks to decline in proportion to demand for several years.

These reasons relate to what commodity traders call 'the fundamentals': the physical balance of supply and demand. But they do not explain everything. Consider these two comments:

'At the source ... was a supply phenomenon and a demand phenomenon, which was explaining most of what we have' (Jean-Claude Trichet, President of the European Central Bank);

'In 2006, the International Monetary Fund concluded that in commodities generally, speculative activity responded to price movements rather than the other way round. But by this March the IMF was puzzling over why prices were still rising in spite of the credit crunch and economic slowdown. A large part of the reason, it decided, was financial buying.' (*Financial Times*, May 12<sup>th</sup>, 2008.)

There is no contradiction here. The fundamentals of supply and demand are indeed 'at the source' of price rises, as M. Trichet put it. But as a matter of course, speculative activity *responds* to such price movements, as the IMF stated. A herd instinct animates financial investment and explains frenzies such as stock market and house price booms. On commodity markets too, a price surge entices speculation ('financial buying', in the FT's phrase) to come in and amplify it, and even take it over.

In Asia traders hoarded rice: a speculative activity as ancient as agricultural trade itself. The *financial* form of hoarding is conducted further away but it is more powerful. Ever since the commodities boom began, financiers have been setting up funds to 'invest' in commodities. This is often done indirectly, for example by purchasing mining companies' shares. Other funds trade on indices of the average prices of commodities. It was estimated that investments in such commodity index funds increased from US\$46 billion in March 2005 to \$250bn in March 2008.

To pick a random example, in the FT on May 12<sup>th</sup>, 2008 a Canadian company advertised 18 funds, six of them specialising in the energy sector and four in gold. Two of the others worked on the grains sub-index of commodity prices. Invested in a price index, that is pure gambling; but these gamblers use other people's money – the savings accounts, pension funds and life insurance policies of the general public. And their actions move the prices of the underlying commodities.

Speculative money also goes into individual commodities, especially oil and gold. In corn (maize) futures, Morgan Stanley Bank estimated that the number of outstanding contracts ('open interest') increased from 500,000 to nearly 2.5 million between 2003 and 2008. There is no reason to suppose

that farmers, merchants and agro-processing firms increased their use of this market so quickly: it can only be explained by speculation.

But why at that time? The reason is simple. Financial investors do not mind where or how they make money, as long as they make it. After the credit crisis started in August 2007 they found that prices for shares, commercial property and financial derivatives stopped going inexorably upwards. But commodity prices were doing so and they piled into them. Some of the fastest moving prices were for corn, wheat and rice, which started to rise rapidly in 2006, later than most commodities.

In the first two months of 2008, more and more money was diverted into commodity funds, and commodity prices shot up faster than ever. In March 2008 the banks cut back their loans because of their own financial difficulties – and commodity prices fell back by up to 20 per cent in two weeks. Then the US launched the first of its schemes to save the banks' finances, and the credits flowed and commodity prices took off once more.

When those loans finance grain price speculation, we find that ordinary people's savings are used (without their knowledge) to make poorer people go hungry. It is such speculation that turned a food price problem into a world crisis.

## 1. Commodity markets and types of speculation on them

'Starting as a trickle in the early part of this decade, the investment from hedge funds, commodity index funds and technical funds also known as Commodity Trading Advisors, (CTAs), has turned into a cascade, as pension funds and endowment fund money are also allocating more of their funds into commodities.

"There is so much investment money coming into commodity markets right now that it almost does not matter what the fundamentals are doing," said one hedge fund manager attending the Chilean capital last week. "The common theme for why all these commodity prices are higher is the substantial increase in [investment] fund flow into these markets, which are not big enough to withstand the increase in funds without pushing up prices," he said.'

- *Financial Times*, April 10<sup>th</sup>, 2006

The warning quoted above was made nearly four years before these words were written, and two-and-a-half years before the banking crash and the unwinding of the commodities boom in the second half of 2008. Commodity prices have taken off again since March 2009. Although prices have yet to rediscover their previous peaks, the financial investments described by the hedge fund manager in 2006 continue to play a major role. This paper describes the forms that these new kinds of commodity speculation take and who the main players are. An accompanying paper looks at what campaign actions might be taken in the U.K. to prevent it having an adverse effect on the agriculture and food supplies of developing countries: at commodity market regulations, at specific regulatory changes that might be made, and how a campaign to achieve them would stand.

This first section describes the various ways in which price speculation can operate on commodity markets. Essentially there are four kinds of speculation, as described below.

### 1. Merchant hoarding

This is the simplest form of speculation and it has probably been used by grain merchants for millennia past. For example, during the rice price spike in 2008, there were reports in India of merchants holding rice back from the market in order to tempt prices still higher, after which they would sell it.

### 2. Brokers' speculation on spot markets

Commodity brokers have always played the market for their own profit as well as that of their clients. For example, they can 'squeeze' supplies on the market in the same way as just described. They can vary these machinations now with the use of over-the-counter (OTC) futures and swaps. At its most serious, a buyer will attempt to 'corner' a market, meaning it will buy up all the supplies so as to gain monopoly control. Corners can be attempted in both spot and futures markets, but they are

difficult to achieve and rare. A famous attempt to do so on a global market was made by the Hunt brothers of Texas on the silver market in 1980.

Over the last few months, several funds have been launched which invest in physical commodities rather than futures or swaps. This is an organised, modern version of the same thing, and will directly affect available supplies and therefore the prices of the commodities concerned. Examples reported include a plan to invest in physical copper by ScotiaMocatta, a Canadian broker owned by the Bank of Nova Scotia; Crédit Suisse and Glencore International (the world's largest commodity trader) with an exchange-traded fund (ETF) in physical aluminium; and ETF Securities, a British firm, offering the same in the U.S. with physical gold and silver. Part of the reason is to evade possible regulatory limits on investments by such funds in the futures markets.<sup>1</sup>

### 3. Conventional speculation on futures markets

In 1865 the Chicago Board of Trade (CBoT) launched the first commodity futures contract. Then in 1869 a Liverpool cotton trader worked out how to use futures trading to 'hedge' (insure) against future price changes. Besides commercial hedgers of this sort, futures markets have always attracted speculators too. Conventional speculation on futures and options contracts includes 'arbitrage' (taking advantage of small price differences between similar markets) and using the flexibility afforded by futures to either go 'long' (buy contracts for future delivery, in order to sell them at a higher price later) or 'short' (enter a contract for future sale, to buy back before it falls due in the hope that in the meantime the price will fall). Financial investors ignored commodities for years after the last big commodities boom in the 1970s, because prices stayed flat for so long. But local traders on the futures exchanges continued to speculate, using their familiarity with the market to take advantage of opportunities that arise.

It must be noted that the boundary between commercial hedging and outright speculation on the futures markets is very fuzzy, because sophisticated hedging strategies involve some attempt to foresee which way prices will go.

### 4. Financial engineering

Since the 1970s futures trading has applied to an ever wider range of phenomena, now including carbon and even the weather. This was precipitated when CBoT introduced the first futures contracts in financial products in the early 1970s.<sup>2</sup> Since the millennium, there has also been a steady expansion in financial investment in commodities, with the aim of enabling investors to diversify their holdings beyond company shares and bonds. Commodities are now considered to be an 'asset class' for investors to exploit, although a difficult one to use. By 2008 financial firms'

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<sup>1</sup> <http://moneymorning.com/2009/10/14/physical-commodity-plays/>. (Note: all websites cited in this paper were visited in January 2010 unless stated otherwise.)

<sup>2</sup> It started with currency futures in 1972, stock options in 1973 and interest rate futures in 1975. [www.cmegroup.com/company/history/magazine/Summer2007/FromWaterStreetToTheWorld.html](http://www.cmegroup.com/company/history/magazine/Summer2007/FromWaterStreetToTheWorld.html).

speculation amounted to 81 per cent of the oil contracts on the New York Mercantile Exchange (Nymex).<sup>3</sup>

An influential academic paper in 2006 argued that the financial returns achieved from buying and later selling a representative portfolio of 34 commodities were negatively correlated with those from stocks and bonds, and that this would make them good for diversifying investments.<sup>4</sup> Interest was boosted by widespread market talk at that time of the onset of a 'commodities supercycle' – widely attributed to the leading U.S. investment bank, Goldman Sachs. All of this assisted salesmanship to attract financial investors, which was needed because of the long time-horizon of the institutional investors that were sought, especially after a 25-year 'bear' market in commodities.

However, since the middle of 2008 commodity prices have *not* gone against the cyclical trend of shares and other main asset classes. In 2008 as a whole the S&P GSCI commodities index fell by just over 50 per cent, similar to the 42 per cent decline in the FTSE All World equities index.<sup>5</sup> In an earlier era too, the late 1920s and 1930s, commodity prices started to decline before share prices did, and then continued to fall away just as sharply with the stock markets.

Over this period numerous new ways have been invented to invest and speculate in commodities. This is what they are:

1. OTC commodity swaps. These are usually provided by investment banks, and are like loans in which the principal (the sum repaid at the end) is not fixed but will alter in line with the price of a commodity or group of commodities.
2. Index funds, including exchange-traded funds (ETFs) and products (ETPs). These will be defined in section 3. They account for 80 to 85 per cent of recent commodities investment.
3. Commodity-related shares. An indirect way to gain 'exposure' to the commodities trade is to invest in companies whose business is in this sector, for example mining and agribusiness firms.
4. Managed futures funds, or 'commodity pools' under Commodity Trading Advisors (in the U.S.). Actively traded, some of them use computer algorithms to chase price trends.
5. Collateralised commodity obligations (CCOs). These are a form of bonds whose payback is related to prices on commodity markets, and are specially designed with a view to protecting the investor from a sharp fall in the market's price. As such, they are meant as sophisticated hedging instruments, akin to collateralised debt obligations, the existence of which was heavily criticised during the banking crisis in 2008.

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<sup>3</sup> *Washington Post*, August 21<sup>st</sup>, 2008.

<sup>4</sup> G. Gorton & K.G. Rouwenhorst (2005), 'Fact and Fantasies about Commodity Futures', <http://fic.wharton.upenn.edu/fic/papers/06/0607.pdf>.

<sup>5</sup> *Financial Times*, December 31<sup>st</sup>, 2008.

## 2. Linkages between commodity speculation and food prices in developing countries

Speculation can have various effects on a commodity's price, depending on the market situation and the form that the speculation takes. On futures markets, conventional theory suggests it will make prices *less* volatile, since the speculator provides a market for the hedger – taking on the risk that the hedger tries to avoid. This benign view goes back ultimately to John Stuart Mill. However, what he had in mind was what we defined above as merchants' physical hoarding rather than any more modern form of speculation. He argued that it was beneficial for merchants to buy surplus produce in one time or place and then sell it where there is a shortage at another: 'That any part of the surplus in one year remains to supply a deficiency of another is owing to farmers who withhold corn from the market, or to dealers who buy it when at the cheapest and lay it up in store.'<sup>6</sup> This was published in 1848, the year in which the CBoT was founded and 17 years before the first futures contract. Modern speculation can undoubtedly also *increase* volatility, as all market observers are aware and Susan Newman recently demonstrated systematically<sup>7</sup> - for example when speculators follow a price trend up or down.

Most of the recent financial investment in commodities has been 'passive' and 'long-only'.<sup>8</sup> In principle, that should not make prices more volatile from month to month, whatever other disruption it may cause on the market. But it will tend to increase prices overall, simply by providing an extra source of demand. This is beneficial for developing countries' commodity exports, as long as the volumes invested are not too erratic or volatile. The damage for developing countries comes with commodities that they import, especially staple foods, and rice and wheat most of all; and consequently also with the domestic food prices that are related to them. Poor countries now import large quantities of cereals, especially rice, wheat and maize. Between 1990 and 2005 sub-Saharan Africa's net imports increased from 4.7 million tons of paddy rice to 11.4 million tons, and from 4.6 million to 14.5 million tons of wheat.<sup>9</sup>

It is by this route that price changes on the Chicago futures markets fed into wider, domestic food price movements on other continents in 2007-08. Their daily price quotations (especially for wheat, corn/maize and soya beans; less so for rice) are adopted in grain trade contracts all round the world. As early as March 2008 the International Monetary Fund identified 'financial buying' as a large part of the reason for commodity price increases. Commodity index funds already controlled 4.51 billion bushels (about 130 million tons) of maize, wheat and soya through CBoT futures, equal to half the amount held in U.S. silos.<sup>10</sup> However, figures from the Commodity Futures Trading Commission

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<sup>6</sup> Quoted in S. Newman (2009), 'The New Price Makers: An investigation into the impact of financial investment on coffee price behaviour', NCCR Trade Working Paper No. 2009/7, Bern. [www.nccr-trade.org](http://www.nccr-trade.org).

<sup>7</sup> In the paper just cited.

<sup>8</sup> See p. 6 for definitions.

<sup>9</sup> U.N. Food & Agriculture Organisation data, cited in T. Lines (2008), *Making Poverty: A History*, London: Zed Books, pp. 121-22, Table 7.

<sup>10</sup> Bloomberg, April 28<sup>th</sup>, 2008.

(CFTC) show that assets under management in the U.S. at commodity index funds were later reduced from just over US\$200 billion at the end of June 2008 to \$82.2 billion at the end of the year, because of declining prices and withdrawals by investors.<sup>11</sup>

In this context there are two categories of staple food:

1. Globally traded staple crops – which, in turn, also fall into two categories:
  - a) Rice – where physical trade predominates (futures are not influential on the main export and import markets, where there is often a lot of government involvement too).
  - b) Wheat and maize: international trade is based on the daily price quotations on the Chicago futures markets, which will reflect speculation along with all the other pressures on the price. Price increases are further amplified in an importing country whenever a currency has been devalued against the U.S. dollar.
2. Staples that do not enter international trade, such as sorghum, millet, cassava and other root crops, and cooking bananas. Their prices are forced up in competition with the high prices found for imported grains.

Indeed, many investors lost money when commodity prices crashed. So some decided to invest in land instead: ‘Demand for actual physical assets, such as farmland, is very strong among investors in general from high net worth individuals to sovereign wealth funds’, according to Will Shropshire, head of agricultural trading at the London branch of the U.S. investment bank, J.P. Morgan Chase.<sup>12</sup> In other words, agricultural commodities speculation is also a motive for the development of ‘land grabs’.

### **3. The new types of commodity speculation**

It is important to understand how the main new forms of commodity speculation operate. This section describes the five most influential, as listed under ‘Financial Engineering’ on p. 3 above.

#### **1. Over-the-counter commodity swaps**

Their use is discussed during the course of 2A and 2B below.

#### **2A. Index funds**

Commodity index funds are sometimes known as commodity mutual funds and are often run by hedge fund companies. They follow the same principles as the funds that track stock exchange indices such as the FTSE100 and the Dow Jones in New York: they invest money in the commodities listed, in fixed amounts according to the weightings in the index used. Then, when they are sold, all of the listed commodities are sold at the same time. The value is assessed at the end of each working day according to each commodity’s closing price. Index funds do *not* try to maximise returns via the most lucrative commodities of the moment, nor do they play the market with ‘long’ and ‘short’ positions. Instead they are

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<sup>11</sup> [www.commodityonline.com/news/Gold-shines-hot-among-commodity-index-funds-22510-3-1.html](http://www.commodityonline.com/news/Gold-shines-hot-among-commodity-index-funds-22510-3-1.html).

<sup>12</sup> Quoted by J. Blas in Special Report on Commodities, *Financial Times*, November 25<sup>th</sup>, 2009.

'passively' traded: they simply aim to replicate the price movements of the commodities in the index.

The oldest index of commodity prices was launched jointly by Reuters news agency and the Commodities Research Bureau in London in 1957. Five main ones are now in use: the Deutsche Bank Liquid Commodity Index (DBLCI), Dow Jones-Union des Banques Suisses (DJ-UBSCI, formerly called DJ-AIGCI), Thomson Reuters/Jefferies CRB Index, Rogers International Commodity Index (RICI) and Standard & Poor's GSCI. As can be seen in Table 1, they give very different weightings to different types of commodity. Agriculture and livestock commodities vary from about 19 per cent to 41 per cent of the total invested. Of the two most widely followed, the GSCI (created by Goldman Sachs in the early 1990s and recently sold to Standard & Poor's rating agency) is based on the total value of each market and therefore emphasises oil and other energy products, while the DJ-UBSCI has a more even spread because it has a strict maximum weight for any one commodity.

Table 1. Commodity weightings of the main indices

	DBLCI	DJ-UBSCI	Reuters-CRB	RICI	S&P GSCI
Energy complex	55%	33%	39%	44%	70.2%
Industrial metals	13%	18.8%	13%	14%	8%
Precious metals	10%	12.4%	7%	7%	3.2%
Agriculture	23%	30.2%	34%	32%	14.1%
Livestock	nil	5.7%	7%	3%	4.5%
No. of components	6	19	19	35	24

Sources: various

Some index funds are invested on the futures markets, others replicate price movements 'synthetically' with commodity swaps arranged with investment banks. If invested in futures, they are bought on 'margin' (a down-payment), which leaves most of the money to be deposited in a bank or the money market and earn interest. In Europe, they are more often synthetic – but even then, usually only part goes into the swap while the rest is put on deposit. Swaps pose a 'counterparty risk' – in other words, a risk that the company on the other side of the deal will default. This does not exist on futures markets, in which all transactions are centrally 'cleared' and therefore guaranteed against default. On the other hand, large-scale index fund investment in futures markets poses a different sort of risk, as we shall soon see.

As we have seen, classical index funds are passively traded and long-only. Since they do not take any view on which commodities are worth investing in, or whether any price will go up or down, can trade in them really be called speculative? Yes, because it has a direct impact on prices, which is divorced from the commercial matters of physical supply and demand.

Whether long or short, issues arise from the way in which index funds are invested. If it is in physical commodities, it diverts them from their real use; if in futures, it can distort the relations between spot and futures months when the contracts are 'rolled over' from one futures position to the next as the former month expires. This problem is at its most acute in markets where prices are declining and there is also a so-called contango, which is when the price of the later month is higher than the nearest month. That is quite a normal situation. In a contango, the new (later month) contract will have to be bought for a greater sum than received for selling the previous one; this causes a loss to the investor, which can build up to substantial amounts over time. On the other hand, a windfall gain is made if the later month's price is lower than the one just expired (called a 'backwardation' in the trade). All of this matters to investors because it means the fund's accruing value does not accurately reflect the progress of prices on the market, as the funds were set up to do. It did not matter to the markets themselves when it was a small investment niche, but it does now with the volumes invested under ETFs.

The problem is not so sharp where the index is synthetically replicated (as it usually is in Europe), but it will arise eventually there too, since the counterparty of the OTC swaps may well want to hedge their exposure on the futures market, and that could eventually overwhelm its capacity too.

## **2B. Exchange traded funds (ETFs)**

In commodities, ETFs are more important now than other forms of index fund. In general, most ETFs are invested in shares or share indices, and indirectly in a bewildering range of products and phenomena, including cancer research, ophthalmology, global nuclear energy and climate change, via the shares of companies involved in those fields. They are traded on stock exchanges, including the London Stock Exchange. Sometimes they are not set up as self-standing funds but merely as exchange-traded 'products' (ETPs) which the investor buys off the financial house. ETFs' advantages to hedge funds and other investors, especially in commodities, are these: simplicity, low fees, tax 'efficiency', liquidity and transparency. For share-based ETFs the average expense ratio has been quoted as 0.53 per cent, compared with 1.41 per cent for a conventional mutual fund. The difference is no doubt similar for commodity ETFs.<sup>13</sup> ETFs are a low-margin, high-volume business, suitable for large businesses such as investment banks to sell, and institutional investors such as pension funds to place money in. It has been reported that 75 to

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<sup>13</sup> FTfm Special Report on Exchange Traded Funds, *Financial Times*, June 16<sup>th</sup>, 2008.

80 per cent of the money invested in the GSCI is from pension funds. The rest is from corporations investing their financial reserves.<sup>14</sup>

Although most ETFs are index funds, some are narrower than that, covering just one commodity or an index covering a restricted group of them (e.g. agriculture, energy products). In agricultural ETFs, 'Banks and fund managers have launched so-called "food baskets", investing in anything from corn to pork bellies, or "breakfast baskets", betting on prices for cocoa, sugar, coffee and orange juice.'<sup>15</sup> Investors can choose funds that are invested in the physical commodity, have long positions, short ones or are 'leveraged' (by matching the invested sum with an equivalent amount that is borrowed – and will therefore have to be paid back, adding extra risk to the investment). In other words, ETFs enable investors to a degree to play the market themselves, by deciding which of the various funds on offer to go for: the choice of a long one implies an expectation that the price will go up, and a short one that it will fall – the same judgment as made by someone speculating in futures directly. They also permit the investor to trade throughout the trading day – just like shares. On the other hand, on an index-based *mutual* fund the price quoted is that of the index at the close of the trading day.

Most of the commodity ETF expansion in 2007-08 was linked to investors' desire to buy in to gold and 'soft' agricultural commodities, and in 2009 by the desire for gold and other precious metals as a 'safe haven' from turmoil in the stock markets and other financial markets. Gold accounted for 75 per cent of commodity ETFs in January 2009. The markets for more traditional alternatives to shares, such as property, were flat.

But it is on the oil and gas futures exchanges in the U.S. that the most severe difficulties with rolling over contracts have been felt, causing serious market disruption in the West Texas Intermediate (WTI) oil and U.S. natural gas contracts in 2009. The U.S. Oil Fund (USO) expanded from 2,855 WTI futures contracts at Nymex in February 2008 to 100,000 a year later. When a contract month expired, the weight of these investments (in markets that were in contango with prices falling) only added to 'spot' selling pressure and thereby further increased the contango. This in turn encouraged others to hold oil in storage (expecting higher prices later on) and further reduced the chances of a rally in the market. But the USO's investors had bought into the fund in the expectation of prices rising. Unusually, in February-March 2009 the price of WTI oil fell well below that of Brent crude, the equivalent British market benchmark. It became impossible for USO to invest in Nymex contracts any further and it had to look elsewhere to place the money it was taking in. Later, much of the investment transferred into its sister U.S. Natural Gas Fund (USG), which created a similar effect in the spring of 2009. Eventually USG suspended the issue of new units in August and September. In the wake of these problems it was even suggested that the

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<sup>14</sup> Doyle, E., *et al* (2007), 'Growth in Commodity Investment: Risks and challenges for commodity market participants', London: Financial Services Authority, [www.fsa.gov.uk/pubs/other/commodity\\_invest.pdf](http://www.fsa.gov.uk/pubs/other/commodity_invest.pdf), p. 25.

<sup>15</sup> J. Blas in 'Special Report on Commodities', *Financial Times*, November 25<sup>th</sup>, 2009.

WTI contract was becoming ‘an ETF derivative’ – the futures market’s prices depending on ETF investments rather than the other way round.<sup>16</sup> This is the sort of problem that financial investment can easily cause for regular commodities trading.

A further problem for investors arises from the fact that (unlike a conventional index fund) the value of an ETF depends on its own quotation on the stock market where it is listed, rather than that of the underlying commodity or commodities. For example, during the WTI market crisis in 2009 the price of the U.S. Oil Fund ETF on the New York Stock Exchange was \$23.32 on February 24<sup>th</sup>, nearly 40 per cent less than the Nymex WTI price of \$38.44 per barrel on the same day.

### 3. Commodity-related shares

These are shares in companies that operate in commodity sectors, such as mining and agribusiness. They are seen as an alternative way of getting investment exposure to the fluctuations of commodity markets, but only indirectly. They do not affect the prices of those markets themselves.

### 4. Managed futures funds, or ‘commodity pools’ (in U.S.)

This is a longer-established way of marshalling numerous investors’ funds into the commodity futures markets. A ‘Commodity trading advisor’ (CTA) collects funds from investors, which the CTA then places on the market as though an investment from a single source. There is no index involved and the funds are actively traded in order to gain the maximum short-term income, making use of the CTA’s market expertise. This is classical speculation, organised for numerous people to participate jointly.

### 5. CCOs

This is a commodity equivalent of the collateralised mortgage securities that triggered off the credit crisis in 2007. It uses the same ‘slice and dice’ principle to combine the prices of several commodities into a package in the form of an interest-bearing bond, the principal amount of which is related to the prices of the underlying commodities. Formally it is a kind of commodity swap, but with a ‘trigger point’, which means it will pay out immediately if the commodity’s price falls below that point. It is meant to provide a hedge against a price collapse. Early examples, with somewhat different features, were issued by Barclays Capital in 2005 and Crédit Suisse in 2007. They were marketed to clients such as insurance companies, commercial banks and hedge funds. Barcap sold a retail version, called a Multi-Commodity Note, across Europe to high-net-worth and private clients – in everyday language, the super-rich. In the U.S., the likes of Goldman Sachs and AIG were reported to be involved in this market. According to a financial blogger writing in April 2007, ‘If ever there was a solution for a problem that didn’t exist, this crap is it.’<sup>17</sup>

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<sup>16</sup> FT Alphaville blog, February 20<sup>th</sup> and 25<sup>th</sup>, 2009. The latter cites Stephen Schork of the Schork Report, an influential energy market blog ([www.energymarketintelligence.com](http://www.energymarketintelligence.com)).

<sup>17</sup> <http://macro-man.blogspot.com/2007/04/creative-solution-to-problem-that.html>.

## A summary of the problems

These are the main problems that are caused by long-only index trading:

- It pushes prices up, irrespective of the market situation.
- It disrupts the rolling over of futures contracts when the nearest month expires. Index funds are supposed to reflect exact market returns, but in fact when a market is in contango investors lose money by having to pay more for the new contract than they are paid for the one just expired. (They make extra money when the market is in the opposite position of futures prices being lower than spot prices, called a 'backwardation'). Nearly three years ago a market commentator on the *Financial Times*, John Dizard, spotted this anomaly and called it 'date rape'. He concluded that the main beneficiary was the trading arm of Goldman Sachs, the very bank which invented the GSCI index used by most of these funds in the U.S. He wrote,

The GSCI has not been as profitable for all the investors who use it to get commodities exposure. Last year [2006] it lost about 15 per cent on a total return basis. Goldman itself had a record year... Goldman's people and its shareholders aren't the only winners in the game with institutional commodity investors. As one local said: "Grain companies [and other physical dealers] are winners too because they own storage and are short hedgers."<sup>18</sup>

This is pretty much the same conclusion as the Schork Report reached concerning the oil market two years later (see p. 8 and footnote 16 above).

- ETFs' accuracy in tracking the indices is far from perfect, especially among those which invest in futures, go short or are leveraged.<sup>19</sup> It has been suggested that some of them should be called 'structured products', not ETFs – comparable to the pre-2007 structured mortgage bonds. (That would put retail buyers off!)
- The volume of trades can overwhelm markets. Their potential scale was described in a report for the Financial Services Authority in 2007:

Currently, global pension funds stand at \$18.6 trillion Assets Under Management (AUM) of which estimates suggest about \$80 billion estimated (*sic*) to be invested in commodities. As many now regard commodities as an asset class, most of our correspondents think all institutional investors should build an exposure of at least 5% (equivalent to \$930 billion).<sup>20</sup>

Although they cover a substantial part of international trade, the total value of the commodity markets is tiny when compared with the modern financial markets. According to the same report for the FSA,

The notional amount of commodities underlying the investments of index funds is very large. Taking the GSCI on its current asset

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<sup>18</sup> [www.gata.org/node/4787](http://www.gata.org/node/4787).

<sup>19</sup> FT Alphaville blog, June 17<sup>th</sup>, 2009.

<sup>20</sup> Doyle, E., *et al* (2007), *op. cit.*, [www.fsa.gov.uk/pubs/other/commodity\\_invest.pdf](http://www.fsa.gov.uk/pubs/other/commodity_invest.pdf), p. 23.

allocation, 3.96% of an estimated \$60bn is invested in copper. At current market prices (about \$7,020/tonne) this equates to about 340,000 tonnes, or more than twice the amount of copper currently in LME [London Metal Exchange] warehouses... It has recently been estimated that 85%+ of activity on the LME is derived from index and hedge funds.<sup>21</sup>

That was written in early 2007, since when the volume of commodity index funds has multiplied. By the end of the third quarter of 2009 commodity assets under management worldwide amounted to US\$224 billion. As a consequence, during 2009 the London Metal Exchange's copper price doubled although LME copper inventories rose substantially, which should usually lead to a fall in prices. Something similar appears to be happening on the oil market in 2010. Copper is one of the largest commodity markets outside the oil sector, viewed as the flagship product of the LME. However, the same report stated that trading volumes on the LME increased tenfold between 1990 and 2006. Energy futures volumes on the Intercontinental Exchange meanwhile doubled in one year.<sup>22</sup> But when I reported on the non-ferrous metal markets 30 years ago, the LME was a specialised commercial market, serving essentially the needs of international trade with a limited amount of local speculation to oil the wheels.

On the New York coffee market, the non-commercial share of 'open interest' (extant contracts) rose from 25 per cent in the late 1980s to more than 60 per cent in 2006. Newman proposed placing an upper limit on non-commercial trades<sup>23</sup> – much the same conclusion as was drawn in the U.S. in the 1930s, leading to that country's regulatory distinction between commercial and speculative ('non-commercial') positions on the futures exchanges, and to position limits, for the latter.

'The real failure is with the institutional investing community that still does not understand how commodity markets work', wrote Dizard.<sup>24</sup> The same institutional investors (pension funds, insurance companies and so on) use ordinary people's money, on which those people expect to live in retirement. It matters to those people if their fund is persuaded to pursue faulty investments; and it matters to others – mostly much poorer than the prospective pensioners – if these investments disrupt world prices for wheat, maize, coffee, cocoa and, indirectly, the poor world's staples like sorghum and cassava.

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<sup>21</sup> *Ibid.*, pp. 35 and 39.

<sup>22</sup> *Ibid.*, p. 22.

<sup>23</sup> Newman (2009), final page of Conclusion (the pages are not numbered).

<sup>24</sup> [www.gata.org/node/4787](http://www.gata.org/node/4787).

#### 4. Commodity trading of various sorts

Until fairly recently, most commodity trading companies were independent brokerages, rather like the stockbroking firms of their day. Some of those involved in physical trade became powerful corporations, such as Cargill, Archer Daniel Midland and Bunge on the grain markets. Those working in the futures markets in London have mostly changed their character over the last 20 to 30 years. Thus, the coffee traders E.D. & F. Man and Neumann have their own in-house brokerages in E.D. & F. Man Commodity Advisors and TRX Futures respectively.<sup>25</sup> Many were bought up by commodity producing or processing companies or even banks, in a process akin to the Big Bang in which banks took over London's stockbrokers in the mid-1980s. Some firms remained independent but diversified into other fields. For example, a generation ago E.D. & F. Man was one of the leading brokers of soft commodities in London, with a history of sugar trading going back to the late 18<sup>th</sup> century. From the 1980s the company branched out into what it calls 'alternative investment management' and 20 years later it had become one of Europe's leading hedge fund companies, under the name of Man Group.

As in the financial sector, formerly clear boundaries between brokers, physical traders, commodity producers and banks became blurred. For example, the *Washington Post* reported that a private Swiss company called Vitol had been classified as a physical trader supplying industrial firms with oil, but when the CFTC looked at the company's books in the U.S. it discovered that in July 2008 it had held 11 per cent of all the oil futures contracts on the Nymex exchange. A month earlier it had held a 'long' position amounting to 57.7 million barrels of oil. Meanwhile just four swap dealers held one-third of all the long Nymex contracts between them.<sup>26</sup> The main participants in the commodities trade are:

- Physical traders or merchants
- Market brokers based in trading centres such as London, Shanghai, Zurich, New York and Chicago. There is not a precise distinction between these first two categories.
- Arbitrageurs, hedge funds and other speculative agents, who participate in the pursuit of maximum profit. (Brokers also have always speculated on their own accounts.)
- 'Beta' index traders – pension funds, ETFs. 'Beta' means an expectation of receiving the average returns available on a given market, by comparison with 'alpha' traders who achieve better than average returns.
- Banks which provide finance, including for speculation (as they do on the stock markets and in other areas of financial investment too).

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<sup>25</sup> Bargawi, H., and S. Newman, 'From Futures Markets to the Farm-gate: Assessing the impact of the financial crisis along coffee chains', p. 10.

<sup>26</sup> Cho, D., 'A Few Speculators Dominate Vast Market for Oil Trading', *Washington Post*, August 21<sup>st</sup>, 2008.

These days investment banks are also among the most important commodity investors and providers of investment tools for others.

Market analysis is done by specialist organisations like the Commodities Research Bureau in London, many of them specific to a particular commodity, and brokers' and investment banks' analysis departments. The so-called 'Chinese walls', that are meant to divide a bank's functions like market analysis and trading from each other in order to prevent conflicts of interest, can be very porous.

In 2008 hedge funds were said to be 'at the forefront of the ETF revolution'.<sup>27</sup> There are said to be about 400 commodity-focused hedge funds.<sup>28</sup> However, they are rather less important than they were because many of their investors took money out of them in the second half of 2008, and since then there has been much less bank credit available for them to play with. How do hedge funds work? The name is a euphemism for what are actually *speculative* funds. The *Financial Times* has described them as 'text book speculators'. Another description is as the main institutions in the unregulated 'shadow' banking system. Typically they charge their clients a 2 per cent annual management fee plus a performance levy amounting to 20 per cent or more of any rise in the fund's value, although there is now some downward pressure on these figures. Be that as it may, hedge funds are extremely expensive to use. This is justified on the grounds that they are supposed to provide 'alpha' investment performance, which means better than the average returns for the markets they invest in. Those markets can be of any sort in which the fund manager thinks he can achieve 'alpha', from company shares in 'emerging' countries to works of art to vintage wines, crude oil, African farmland and wheat or maize futures. Hedge funds get much of their finance by borrowing from banks. Their business strategy was recently caricatured like this:

'Since the [Icelandic] banks had turned Iceland into a hedge fund, with massive short-term foreign currency liabilities used to finance risky long-term assets, the [national] economy was doomed.'<sup>29</sup>

**Private equity funds** take *equity* (shareholding) positions and speculate in company ownership. They are the modern version of what were called 'asset-strippers' in the 1960s: they buy a company, sell off assets that they think are not essential to it, reduce its staff to cut costs, and then sell the firm on, hopefully for more than they paid for it. Like hedge funds, they rely on borrowing money for their work, but they are not active in the commodities trade. According to the *Financial Times*, private equity groups completed the fewest U.K. deals for 25 years in 2009, as the credit crisis cut off the supply of cheap credit.<sup>30</sup>

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<sup>27</sup> FTfm Special Report on Exchange Traded Funds, *Financial Times*, June 16<sup>th</sup>, 2008.

<sup>28</sup> G. Meyer in Special Report on Commodities, *Financial Times*, November 25<sup>th</sup>, 2009.

<sup>29</sup> M. Wolf, *Financial Times*, January 15<sup>th</sup>, 2010.

<sup>30</sup> <http://ftalphaville.ft.com/blog/2010/01/19/128671/uk-buy-outs-at-25-year-low/>.

## 5. Main players (in various categories)

Who are the players in this market? In March 2009 the top three ETF providers in Europe were listed as iShare (which is now run by the BlackRock hedge fund), db x-trackers and Lyxor. All originated with investment banks, and Deutsche Bank and Société Générale respectively still run the latter two.

### 1. Hedge funds, index funds and ETFs

**ETF Securities Ltd**, a U.K.-based specialist in commodity and energy funds. It launched ETFs at the London Stock Exchange in 2006. 95 per cent went to institutional investors in 2008. It runs 38 agricultural and 12 livestock ETFs, using the DJ-UBSCI index. In 2009 its commodity ETF assets increased by \$9 billion to reach \$16 billion (and over \$17 billion by mid-January 2010). Within this, its agriculture ETF assets increased by \$1.1 billion. Some short agricultural funds lost value, but short wheat was up 17.2 per cent, which means it made money out of the decline in wheat prices. It is entirely directed at institutional (not retail) investors.

**Man Group** – specialises in CTAs and actively managed funds, not ETFs. The flagship is Man AHL Diversified, a leveraged managed futures fund.

**BlackRock** – the world's largest asset manager and the largest on the overall ETF market, with US\$3,200 billion under management as a result of its recent acquisition of Barclays Global Investors and iShares, the global leader in ETFs.

**State Street Global Advisors** – invented ETFs in the U.S. in 1993 – still the second largest ETF assets under management. Specialises in gold.

**Vanguard** – the third largest ETF AUM and hitherto the cheapest. Not a big specialist in commodities but Vanguard does do precious metal ETFs.

**Invesco PowerShares** – currently has 142 ETFs including 'DB Agriculture and Commodity Index' funds; and a U.S. equity fund called Global Agricultural Portfolio.

**US Commodity Funds** – the largest oil and gas ETPs. Includes USO and USG.

**Touradji Capital Management** – one of the largest hedge funds. Its 'global resource fund' tracks GSCI.

**Clive Capital** – the largest broad commodity hedge fund.

**Pinnacle Asset Management** – funnels money to commodity hedge funds.

**ProShares** – part of what claims to be the world's largest manager of leveraged and short funds, and specialises in more adventurous ETFs, including for commodities.

**Vermillion Asset Management** (New York) – one of the hedge funds which have bought physical commodities.

**Winton Futures Fund** – specialises in managed futures.

## 2. Banks and other financial houses

**Goldman Sachs** – inventor of GSCI. It was also behind the creation of ICE and its extension to the U.K. (taking over what used to be known as the International Petroleum Exchange). Nicknamed the ‘Vampire Squid’ on the financial markets.

**Barclays Capital** (Barcap). The inventor of CCOs, it claims that its ‘commodities muscle is the envy of its competitors’.<sup>31</sup> Barcap bought out Lehman Brothers’ U.S. operations when that bank collapsed in 2008. The first two Barclays iPath ETNs (2006) were linked to commodity indices. Its Global Agricultural Fund includes grains and live cattle. Uses the Rogers index.

**Société Générale** (Lyxor ETFs) – uses Reuters/Jefferies CRB index.

**Deutsche Bank** – db x-trackers. PowerShares DB Agriculture Fund (largest agricultural fund in the U.S. - includes wheat) and PowerShares DB Commodity Index Tracking Fund (largest broad-basket commodity ETF in U.S.). Uses its own DBLCI index. Its ‘DBLCI - Optimum Yield Balanced ETF’ has assets under management of €875m, in 14 commodities including wheat, corn, soya beans and sugar.

**AIG** – DJ-AIGCI – giant U.S. insurance company bailed out in 2008 – former sponsors of Manchester Utd.

**Morgan Stanley** – very active, helped Goldman Sachs found ICE in 2000

**JP Morgan Chase** – has a large agricultural trading arm and won several awards for its commodity derivatives business. Recently acquired UBS’ agriculture business. Not a specialist in commodity ETFs, however.

**Citigroup**

**Crédit Suisse**

**Union des Banques Suisses (UBS)**

## 3. Institutional investors active in commodities

These include **ABP** and **PGGM**, big Dutch pension funds.

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<sup>31</sup> [www.risk.net/structured-products/feature/1528293/house-commodities-barclays-capital](http://www.risk.net/structured-products/feature/1528293/house-commodities-barclays-capital).

4. Influential analysts (vary from market to market), including index compilers

**Goldman Sachs.** It was analysts at Goldman Sachs who most firmly predicted an oil price of \$200 per barrel, and Goldman Sachs traders were among the most bullish in the oil market until the middle of 2008. The bank also popularised the 'commodity supercycle' theory

**Standard & Poor's** – the U.S. rating agency, which bought the GSCI from Goldman Sachs.

**Dow Jones** – a News International (Murdoch) subsidiary

**Thomson Reuters.**