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# Amber Waves of Pain

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*Corrects description of the seller of financial products in the 16th paragraph.*

Like so many investors in the spring of 2009, Gordon Wolf needed to dig out of a hole. A 68-year-old psychologist in Napa, Calif., Wolf was a buy-and-hold sort of guy, yet the nest egg he had entrusted to his broker at Merrill Lynch (MER) was suddenly down by more than 50 percent. The broker had invested much of it in a range of exchange-traded funds, or ETFs, a relatively new financial innovation that was replacing mutual funds in the hearts and portfolios of many investors.

An ETF, which can be bought or sold like a stock, attempts to track the price of a particular basket of assets—tech stocks, for instance, or high-yield bonds, or commodities ranging from wheat to gold to oil to natural gas. The commodity ETFs were supposed to offer a hedge against equity losses, but in the crash of 2008 everything fell in tandem. Now it was early 2009, and Wolf was watching oil fall to \$34 a barrel. That had to be an opportunity, he figured, so he called his Merrill broker and asked about the U.S. Oil Fund (USO), an ETF designed to track the price of light, sweet crude. "This seems to be something good," Wolf told the broker, and had him buy about

\$10,000 of USO.

What happened next didn't make sense. Wolf watched oil go up as predicted, yet USO kept going down. In February 2009, for example, crude rose 7.4 percent while USO fell by 7.4 percent. What was going on? Wolf logged on to Seeking Alpha, a financial blog, and searched for USO. He found plenty of angry discussion about the fund—lots of people were losing lots of money, because thousands of American investors had seen the same sort of opportunity Wolf had. By the end of 2009, they had a record \$277 billion invested in commodity ETFs and other securities linked to raw materials—a 50-fold jump from \$5.5 billion a decade earlier, according to Barclays Capital. During that time, Wall Street had transformed the reputation of commodities from a hyper-volatile investment that can steal your shirt to a booster for battered portfolios, something that rose when stocks fell and hedged against inflation. People who would never think of buying a tanker of crude or a silo of wheat could now put both commodities in their 401(k)s. Suddenly everybody was a speculator.

And some were losing big. The commodity ETFs weren't living up to their hype, and the reason had to do with a word Wolf had never heard before. As he browsed the blogs, he says, "I'm seeing people talking about something called *contango*. Nobody would define it." Wolf called his broker and asked about contango. "I don't know what it is," he replied. He called his other broker, at Charles Schwab (SCHW). "He didn't know either," Wolf says. "He said he'd ask around." Weeks later, after Wolf educated himself, he fired his Merrill broker and pulled his money out. (Merrill and Schwab declined to comment.) By then he had lost \$2,500 on USO. "If it wasn't a rigged game," he says, "I could figure it out. But it is a

rigged game."

## The Contango Trap

Contango is a word traders use to describe a specific market condition, when contracts for future delivery of a commodity are more expensive than near-term contracts for the same stuff. It is common in commodity markets, though as Wolf and other investors learned, it can spell doom for commodity ETFs. When the futures contracts that commodity funds own are about to expire, fund managers have to sell them and buy new ones; otherwise they would have to take delivery of billions of dollars' worth of raw materials. When they buy the more expensive contracts—more expensive thanks to contango—they lose money for their investors. Contango eats a fund's seed corn, chewing away its value.

Here's an example. The Standard & Poor's Goldman Sachs Commodity Index (S&P GSCI), which tracks 24 raw materials, is the basis for as much as \$80 billion of investment. Managers of funds linked to the index, created by Goldman in 1991, have to buy their next-month futures contracts between the fifth and the ninth business day of each month. During that period in May 2010, fund managers sold contracts for June delivery of crude oil priced at \$75.67 a barrel, on average, according to data compiled by Bloomberg. Managers replacing those futures with July contracts had to pay \$79.68. After the roll period ended, the July contract fell back to \$75.43. For each of the thousands of contracts, in other words, managers paid \$4 for nothing—and the value of their funds dropped accordingly.

Contango isn't the only reason commodity ETFs make lousy buy-and-hold investments. Professional futures traders exploit the ETFs'

monthly rolls to make easy profits at the little guy's expense. Unlike ETF managers, the professionals don't trade at set times. They can buy the next month ahead of the big programmed rolls to drive up the price, or sell before the ETF, pushing down the price investors get paid for expiring futures. The strategy is called "pre-rolling."

"I make a living off the dumb money," says Emil van Essen, founder of an eponymous commodity trading company in Chicago. Van Essen developed software that predicts and profits from pre-rolling. "These index funds get eaten alive by people like me," he says.

A look at 10 well-known funds based on commodity futures found that, since inception, all 10 have trailed the performance of their underlying raw materials, according to Bloomberg data. The biggest oil ETF, the U.S. Oil Fund, which Wolf bought and which now has \$1.9 billion invested in it, has dropped 50 percent since it started in April 2006—even as crude oil climbed 11 percent. The \$2.7 billion U.S. Natural Gas Fund (UNG), offered by the same company, has plummeted 85 percent since its launch in April 2007—more than double the 40 percent decline in natural gas. Deutsche Bank's (DB) PowerShares DB Agriculture Fund (DBA) has eked out a 3 percent total return since January 2007, while the weighted average of its commodity components has risen 19 percent. To be sure, those spot prices—reported on cable business channels and other outlets—set an unreachable benchmark. If investors try to match the spot market using ETFs, they can get killed by contango. If they dodge contango by buying physical commodities instead, they must pay heavy storage costs that can easily turn gains to losses.

The allure of commodity investment has hit even the most sophisticated investors. The California Public Employees' Retirement System, the largest public pension in the U.S., has lost

almost 15 percent of an \$842 million investment in commodity futures since 2007, according to its latest filings, depriving it of income at a time when it has sought taxpayer money to cover retiree benefits. It defends the investment as insurance that will pay off in the event of inflation.

Just as they did with subprime mortgage-backed securities, Wall Street banks are transferring wealth from their clients to their trading desks. "You walk into a casino, you expect to lose money," says Greg Forero, former director of commodities trading at UBS (UBS). "It's the same with these products. You're playing a game with a very high rake, a very high house advantage, and you're not the house."

## **Consumers Take a Hit**

Selling commodity investments has long required training in the futures markets. Selling commodity ETFs doesn't, says Michael Frankfurter, managing director of Cervino Capital Management, a commodity trading adviser in Los Angeles. Turning commodity futures into securities unleashed a much larger sales force—stockbrokers selling a product many of them didn't understand, he says. Passive buy-and-hold investors at one point in mid-2008 held the equivalent of three years of production of soft red winter wheat. Wall Street's success in attracting those buyers boosted demand for futures contracts, which helped determine what consumers would pay for baked goods.

Wheat prices jumped 52 percent in early 2008, setting records before plunging again, and sugar more than doubled last year even as the economy slowed, forcing Reinwald's Bakery in Huntington, N.Y., to fire five of its 32 employees. "You try and budget to make

money, but that's becoming impossible to predict," says owner Richard Reinwald, chairman of the Retail Bakers of America. Cocoa futures reached a 30-year high early this year because of speculators, according to Juergen Steinemann, chief executive officer of the world's largest maker of bulk chocolate, Zurich-based Barry Callebaut. At the airport, the new \$25 charge for checking a suitcase exists partly because airlines have to set aside cash to hedge against sharper ups and downs in oil prices, says Bob Fornaro, CEO of AirTran Holdings. "This has been very, very good for Wall Street," he says.

Sponsors of commodity ETFs and similar investments—including Deutsche Bank, Barclays (BCS), and UBS—warn of the risks in their prospectuses. Those banks declined to comment, but defenders say it's unfair to single out returns over any specific time period. "Diversification doesn't mean you're always going to be up, but you spread the risk differently," says Kevin Rich, a former Deutsche Bank executive who developed the first futures-based commodity ETFs in the U.S.

Not every trader is comfortable with what Wall Street has done. Forero, 36, became director of commodities trading at UBS in 2007. A New Yorker whose father was Colombian consul to the U.S., he began his career at JPMorgan Securities, then worked a series of energy-trading jobs before landing at UBS's securities division in Stamford, Conn., where the Swiss bank operates one of the world's largest trading floors. UBS had bought Enron's energy desk, so Forero sat among veterans of the disgraced company.

UBS sold notes linked to futures and earned commissions handling the monthly roll for clients such as USO, Forero says, adding that he didn't do the roll himself. ("That was a different group," he says.)

In January 2009, stung by subprime losses that forced a Swiss government bailout, UBS shut its energy desk. Forero and his wife had a newborn daughter and a \$1.2 million Colonial in Norwalk, Conn. With no job, Forero holed up in his home office, sifting through data with a Hewlett-Packard (HPQ) scientific calculator. He became convinced that the products UBS had sold were hurting investors and disrupting supply and demand for basic commodities.

"I've always been a little naïve, and maybe I still am," he says. "But how can the government allow that? People in our industry talk about it—everybody knows about it. This has to come to light."

## The Birth of an Idea

Bob Greer spent long days during the mid-1970s in the basement of a public library in Tulsa, going through rolls of microfilm. He painstakingly copied commodity prices onto yellow legal pads, then tallied them up on a handheld calculator—piecing together the first investable commodities index. An economist and mathematician with a Stanford University MBA, Greer had worked at a commodities brokerage in Dallas, where he got the idea that raw materials might belong in investment portfolios, alongside stocks and bonds.

Greer's work in the library basement led to the publication, in 1978, of his first article on buy-and-hold commodity investing in the *Journal of Portfolio Management*. ["Conservative Commodities: A Key Inflation Hedge"](#) outlined the benefits of passive, unleveraged, long-only bets on raw materials. The idea didn't catch on, and Greer went into commercial real estate. At the time, everyone knew someone who had gone broke betting on soybeans, or a gold bug who hoarded coins against catastrophe, he says. Commodity

investing wasn't respectable. "People did not believe that the words 'commodity' and 'investment' belonged in the same sentence," says Greer, now 63 and an executive vice-president at Pimco in Newport Beach, Calif.

Greer had long since given up on his idea by 1991, when Goldman launched its benchmark commodity index and began selling swaps that tracked it to institutional investors. Two years later, Daiwa Securities hired him to create an index based on the one he had dreamed up in Tulsa. Commodities investing was catching on, and Greer says a breakthrough came when the tech bubble burst in 2000. By 2002, when the Standard & Poor's 500-stock index plunged 25 percent, investors were desperate for alternatives. That year, Pimco hired Greer to start its Commodity RealReturn Strategy Fund. The actively managed fund has returned more than 200 percent since its debut.

While Greer was launching his fund, a natural resources consultant in Australia, Graham Tuckwell, was developing the first commodity ETFs. Tuckwell had worked for Salomon Brothers, Credit Suisse (CS) First Boston, and Normandy Mining, Australia's largest gold producer; by 2002 he was working with the Australian Gold Council, looking for a way to encourage gold investing. An acquaintance mentioned an oddball product: wine securities. They were "funny little things," Tuckwell says, that allowed cases of a particular vintage to be traded on a stock exchange. He decided his fund would work the same way. Instead of cases of wine, the shares would be backed by gold bars stored in a vault.

Tuckwell's innovation, rolled out in 2003 and then called Gold Bullion Securities, soon became a hit, and in April 2004 a contact at Royal Dutch Shell (RDSA) approached him with a question: Could



he do for oil what he had done for gold? "An oil refinery takes an enormous amount of working capital because you have all this crude oil sitting there," Tuckwell says. He went to Shell and pitched a product that would help the company make money from the crude it keeps in storage.

Backing the oil ETF shares with the physical commodity proved unwieldy. Gold was compact and easily stored in a vault; oil was in depots, pipelines, and tankers all over the world. Instead, Tuckwell's London firm, ETF Securities, entered into a swap agreement with Shell. Tuckwell used investors' money to buy contracts from Shell, and Shell gave them the same return as crude oil, based on the price of Brent crude futures. Since the oil ETF started trading in London in 2005, Brent has risen 30 percent; the fund has dropped 27 percent. The risks are clearly outlined in the prospectus, Tuckwell says, and anyone who doesn't understand the product first shouldn't buy it.

Banks used new academic research to pitch commodities as a safe way to diversify. In one 2004 presentation, Heather Shemilt, then a managing director and now a partner at Goldman, called the strategy "the portfolio enhancer." That same year two professors, Gary B. Gorton of the Wharton School and K. Geert Rouwenhorst of Yale University, published a paper, funded in part by AIG (AIG), which argued that an investment in a broad commodity index would have brought about the same return as stocks from 1959 to 2004, and would often rise when stocks fall. Under the crystal chandeliers of San Francisco's Palace Hotel in June 2005, Rouwenhorst presented his findings to more than 100 investment pros; Shemilt also appeared, alongside managers from Barclays and AIG. After the talk, many in the audience had the same question: How do I do

this?

Barclays, Goldman, AIG, and other firms had developed ways to help them do it—several types of investments based on futures contracts, which had been used for almost 150 years to arrange the price and delivery of a given commodity at a specified place and date. These products remained the province of wealthy investors. In 2004, however, Deutsche Bank's Rich devised a commodity ETF that opened the door to retail investors when it launched two years later. There was an obstacle: The U.S. Commodity Futures Trading Commission, a regulatory board created in 1974 after a runup in grain prices, required buyers of certain commodity investments to sign a statement saying they understood the risks. The banks argued that it would be impossible to collect so many thousands of signatures for a product designed to trade like a stock. In 2005, Deutsche Bank lawyer Greg Collett, who had worked at the CFTC from 1998 to 1999, helped persuade the commission to waive the rule and let funds replace it with their prospectus. That would provide adequate warning, the CFTC concluded. Collett says he believed the fund "democratized" commodity investing.

Rich started attending National Grain & Feed Assn. conferences to introduce ETF investors to the traditional players, such as farmers and silo operators. One conference featured a boat ride up the Illinois River to visit a grain depot, giving Rich a chance to explain his new ETFs to old-school grain traders. "They were a bit suspicious," he says.

These days, the Wall Street banks are more like those grain traders than you might think. They have equipped themselves to take delivery of raw materials when they choose to, so they can wait for the commodity price to rise without having to roll contracts, giving

them another advantage over ETF investors. Goldman owns a global network of aluminum warehouses. Morgan Stanley (MS) chartered more tankers than Chevron (CVX) last year, according to shipbroker Poten & Partners. And JPMorgan Chase (JPM) hired a supertanker to store heating oil off Malta last year, likely earning returns of better than 50 percent in six months, says oil economist Philip Verleger. "Many, many firms did this," he adds, explaining that ETF investors created this "profitable, risk-free arbitrage opportunity" when they plowed into commodities. Futures are bilateral; if someone's buying, someone else is selling. "And the only way to attract sellers is to offer them a bigger profit," Verleger says. "So, ironically, passive investors have been sowing the seeds of their own defeat"—and contributing to the contango that does in their funds.

Even the former Deutsche Bank lawyer who helped open the floodgates now says something has gone wrong. "Like most things on Wall Street, they have been over-marketed," Collett says. "The complications have been glossed over. I'm not sure the people marketing them even understand the complications, and that's a shame." Collett left Deutsche in 2008 and is pursuing a career as a stand-up comic in New York.

## **Poster Children**

If you're going to serve as de facto spokesman for the commodity ETF industry, it probably helps to have played college rugby. John Hyland is the chief investment officer of U.S. Commodities Funds, the Alameda (Calif.) company that manages USO and its sister fund, U.S. Natural Gas. Majoring in political science at the University of California at Berkeley in the late 1970s, Hyland played

the rugby position called hooker, which requires toughness and fancy footwork to jerk the ball out of the scrum. "My wife calls me the human battering ram," he says. For the past year he's been trying to keep his funds out of a regulatory pileup.

Hyland, 51, had never managed commodities before he joined U.S. Commodities in 2005. He had been in the investment business for 20 years—running portfolios and mutual funds—before he teamed up with U.S. Commodities CEO Nicholas Gerber. In 2006, as Gerber and Hyland were trying to win approval from the Securities & Exchange Commission for the U.S. Oil Fund, the fund's prospectus hit the desk of Dan McCabe, then CEO of Bear Hunter Structured Products, which was to be the fund's first market maker. McCabe recalls immediately spotting how traders would pick USO apart.

"Anybody who looked at it prior knew exactly what would happen," McCabe says. "From a trading side—and I spent most of my life trading—I would say, 'Wow, what a great opportunity.' "

After Hyland's oil and natural gas funds surged in 2008 and 2009, he found himself in the crosshairs of the Commodities Futures Trading Commission, which was holding hearings on energy speculation in the wake of \$147-a-barrel oil. CFTC Chairman Gary Gensler began calling for limits on the number of energy contracts a single trader can hold. As Hyland's ETFs became poster children for the problem, Hyland became their most vocal advocate. At an ETF conference in Boca Raton, Fla., in January, he showed up with bottles of Merlot stamped with the company logo and the words "California Crude." The chances of pre-rolling his funds, he maintains, are "historically a 50-50 crapshoot"—a view many traders reject. His funds track daily moves in futures prices, he

continues, because spot prices are impossible to capture unless you store fuel yourself. "I don't think the products are flawed," he says. "They do what they say they're supposed to do."

On Feb. 6, 2009—to cite one example—USO did what McCabe guessed it might. It gave traders an opportunity to profit at the expense of the fund's investors, McCabe says. With oil prices near their lowest in more than four years, long-term investors like Wolf had flocked to the fund; its monthly roll, taking place that day, had grown so large that it represented financial contracts for nearly 78 million barrels of oil, roughly four times the amount of oil the U.S. consumes in a single day. On Feb. 6, the price spread between expiring crude oil futures and those for the following month widened by \$1.39 a barrel, or 30 percent, to \$5.98. The price jump was so extreme that the CFTC announced an investigation within weeks, saying it "takes seriously issues surrounding price movements in our nation's vital energy markets."

In the midst of the price swing, according to an account released by the CFTC in April, a Morgan Stanley trader made a secret deal with a broker at UBS, acting on behalf of USO. Around noon, Morgan Stanley agreed to buy 33,110 of the fund's expiring March contracts and sell it April contracts, the CFTC said. The Morgan Stanley trader asked UBS to keep the trade quiet—a violation of New York Mercantile Exchange (Nymex) rules—until after the 2:30 p.m. close of trading that day.

The secret deal was breathtakingly large, equivalent to 12 percent of March futures on the Nymex. At the end of the day, USO and its investors lost because of the extreme contango: They could afford fewer of the more expensive April futures than they had in March, Forero says after analyzing Bloomberg data. Buying the same

amount of oil would have cost \$466 million more, he estimates.

"You can either get screwed out of money or you can get screwed out of product," he says. "They had to pay more for effectively the same barrels."

The CFTC told the oil fund it may be held "vicariously liable" for UBS's actions, according to a March filing with the SEC. Hyland says he knew nothing about the deal. In April the CFTC ordered a \$14 million civil fine for Morgan Stanley and \$200,000 for UBS for failing to report the trade as required. The CFTC declined to explain how it arrived at the amounts or to disclose Morgan Stanley's profit. UBS declined comment. "Morgan Stanley fully cooperated with the CFTC and is pleased to have reached a resolution with our regulator," says company spokeswoman Jennifer Sala. "This matter concerned an isolated request by a former Morgan Stanley trader."

Without knowing Morgan Stanley's trades, Hyland says, it's hard to determine whether the bank's actions harmed investors. "The best that you can do as the provider of investment products is lay out, in as much detail as you think people can absorb, the hows, the whys, and the risks," he says. Page five of the fund's 86-page prospectus includes this disclaimer: "The price relationship between the near month contract to expire and the next month contract to expire...will vary and may impact both the total return over time...as well as the degree to which its total return tracks other crude oil price indices' total returns."

Hyland's other main fund, U.S. Natural Gas (UNG), got so big last year that at its peak it owned the equivalent of 86 percent of the near-month natural gas contracts on the Nymex. As natural gas prices fell into the basement—traders call the notoriously volatile market "The Widowmaker"—UNG fell with them, and when gas

prices rallied, UNG did not. The fund's growth raised concerns among regulators at the CFTC, which last year began debating position limits; it will revisit the issue this year. The fund grew so large it had to freeze its position and start buying over-the-counter derivatives—unregulated contracts tied to gas prices—instead of futures. Hyland told the CFTC last year that it was "gibberish" to say UNG had any effect on natural gas prices.

## **New Oversight?**

The financial reform bill President Barack Obama signed on July 21 includes a few provisions that may help the CFTC address the commodity ETF mess. The new regulations enhance the CFTC's ability to prosecute trading abuses, and set position limits on over-the-counter swaps, like those UNG has been buying. How much the new law will help remains to be seen, says Jill E. Sommers, one of the agency's five commissioners, because Congress still needs to appropriate funds and write guidelines for implementation and enforcement. "We'll need additional dollars to carry this out," she says, adding that it's too early to say whether the CFTC has the authority needed to crack down on pre-rolling. "We're at the beginning of the rule-writing process, so it's premature to say whether additional authority is going to be needed," she says.

By requiring the commission to impose caps on energy trading within a year, the rules may limit the size of some funds. It does nothing to directly address the market impact of the funds, says CFTC commissioner Bart Chilton. He likens ETF investors' supersized role to the one Tom Hanks played in the 1988 film *Big*—a little boy in a man's body. "The dynamics of the market have changed so dramatically over the last several years with this new

influx of capital that is massive in size and passive in strategy," Chilton says. "That has had an impact that wasn't anticipated."

The CFTC's explicit responsibility is to guard against commodity market distortions, not to look out for ETF investors like Gordon Wolf. "We are concerned about both," says Sommers. Adds Gensler: "The CFTC is aggressively using its authority to police the markets for fraud, manipulation, and other abuses. Investors also should fully research any products before they buy." As Hyland likes to point out, the risks are described in each fund's prospectus. Now investors are learning what those words actually mean.