THE ACCIDENTAL HUNT BROTHERS

How Institutional Investors Are Driving Up Food And Energy Prices

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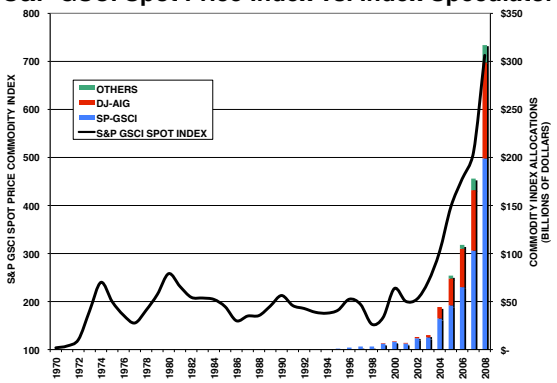
- The Hunt Brothers were famous for trying to corner the silver market. They were successful in driving the futures price of silver from under $10 to over $50 an ounce. When the COMEX stepped in and made them liquidate their position, silver prices dropped back to $10 an ounce within three months.
- Institutional Investors, with nearly $30 trillion in assets under management, have decided en masse to embrace commodities futures as an investable asset class. In the last five years, they have poured hundreds of billions of dollars into the commodities futures markets, a large fraction of which has gone into energy futures.
- While individually these Investors are trying to do the right thing for their portfolios (and stakeholders), they are unaware that collectively they are having a massive impact on the futures markets that makes the Hunt Brothers pale in comparison.
- In the last 4½, years assets allocated to commodity index replication trading strategies have grown from $13 billion in 2003 to $317 billion in July 2008. At the same time, the prices for the 25 commodities that make up these indices have risen by an average of over 200%.

S&P GSCI Spot Price Index vs. Index Speculator Assets



Source: Bloomberg, Goldman Sachs, CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see appendix). 2008 figure is as of 7/1/08.

- Today's commodities futures markets are excessively speculative, and the speculative position limits designed to protect the markets have been raised, or in some cases, eliminated. Congress must act to re-establish hard and fast position limits across all markets.

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ABOUT THIS REPORT

- Chapters One and Two of this report are foundational. They examine the nature of the commodities futures markets and the characteristics of Index Speculators respectively.
- Chapter Three presents the evidence that Index Speculators have been at least partially responsible for the tripling of commodities futures prices over the last five years. *If you read only one chapter in this report this is the one to read.*
- Chapters Four, Five and Six are shorter, conceptual chapters that tackle the topics of the Price Discovery Function, Excessive Speculation and Speculative Position Limits, respectively. They are valuable for understanding the nature of the solutions recommended to combat Excessive Speculation and Index Speculation.
- Chapter Seven presents our recommended legislation solutions.

ABOUT THE AUTHORS

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Adam K. White, CFA is currently the Director of Research at White Knight Research and Trading an independent research consulting firm. Prior to his current position Mr. White was a successful research analyst with Masters Capital Management. In his 6-year tenure with Masters Capital he had primary research coverage for financial services stocks and was also head of derivatives strategy. Before that he worked for 3 years at The Coca-Cola Company in their treasury department where he was responsible for managing their billion-dollar emerging market currency portfolio. He was also head of the "portfolio project" at Coke treasury and built many of the options pricing systems they use today. Coming out of graduate school, Mr. White worked for Swiss Bank Corporation as a Risk Management Advisor responsible for marketing, pricing and hedging interest rate swaps and options. Mr. White holds a B.S. in Accounting from the Fisher School of Accounting at the University of Florida as well as an M.B.A. in Finance and Economics from the Graduate School of Business at the University of Chicago. Mr. White also holds the Chartered Financial Analyst designation.

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EXECUTIVE SUMMARY

The commodities futures markets are a unique hybrid form of marketplace where two distinctly different categories of market participants transact side by side. Physical Hedgers access the markets to reduce the price risk of their underlying physical commodity businesses, while Speculators trade in the markets to make maximum profits.

When Physical Hedgers dominate the commodities futures marketplace, prices accurately reflect the supply and demand realities that physical consumers and producers are experiencing in their businesses. When Speculators become the dominant force, prices can become un-tethered from supply and demand, reaching irrationally exuberant heights.

In 1936 Congress devised a system to prevent the kind of speculative bubbles we are seeing today. The Commodity Exchange Act placed limits on the size of Speculators' positions, thereby ensuring the dominance of bona fide Physical Hedgers. Congress established position limits with the understanding that the proper functioning of the commodities futures markets was essential to the health of the American economy.

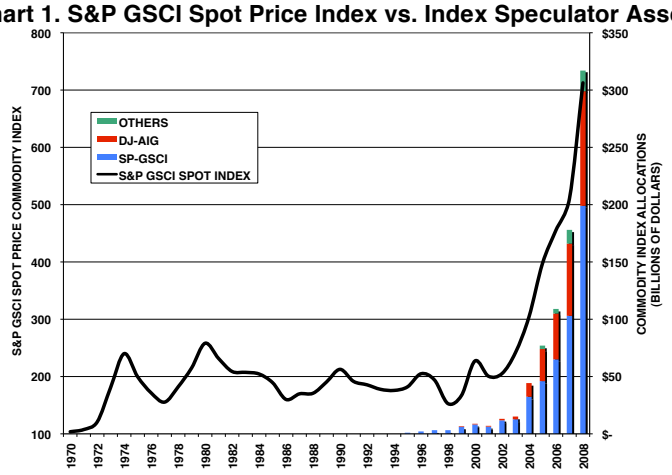
Today the agricultural and energy markets rely on futures prices as their benchmark for the pricing of nearly all their transactions in the real world "spot" markets. For many commodities, when the futures price rises by $1, the spot price rises by $1 as well. This pricing method is preferred by Physical Hedgers because it allows them to use the futures markets to hedge their price risk on a dollar-for-dollar basis.

Unfortunately, this price discovery function of the commodities futures markets is breaking down. With the advent of financial futures, the important distinctions between commodities futures and financial futures were lost to regulators. Excessive speculation gradually became synonymous with manipulation, and speculative position limits were raised or effectively eliminated because they were not deemed necessary to prevent manipulation.

Swaps dealers who trade derivatives in the completely unregulated over-the-counter (OTC) markets have been given the same virtually unlimited access to the futures markets that bona fide Physical Hedgers enjoy. These swaps dealers have convinced Institutional Investors that commodities futures are an asset class that can deliver "equity-like returns" while reducing overall portfolio risk. These investors have been encouraged to make "a broadly diversified, long-only passive investment" in commodities futures indices. As a result, a new and more damaging form of Speculator was born; we call them ***Index Speculators***.

As Chart 1 demonstrates, the result has been a titanic wave of speculative money that has flowed into the commodities futures markets and driven up prices dramatically.

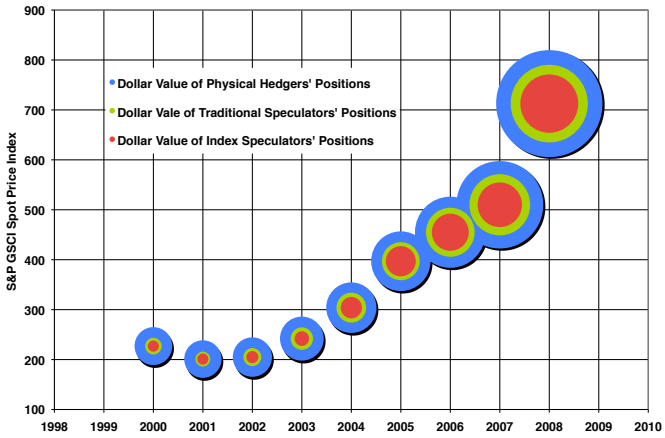
Chart 1. S&P GSCI Spot Price Index vs. Index Speculator Assets



Source: Bloomberg, Goldman Sachs, CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see appendix). 2008 figure is as of 7/1/08.

The total open interest of the 25 largest and most important commodities, upon which the indices are based, was $183 billion in 2004. From the beginning of 2004 to today, Index Speculators have poured $173 billion into these 25 commodities. As Chart 2 shows, this has caused futures prices to rise dramatically as the commodities futures markets were forced to expand in order to absorb this influx of money.

Chart 2. Commodities Futures Market Size (Billions) vs. S&P GSCI Spot Price Index



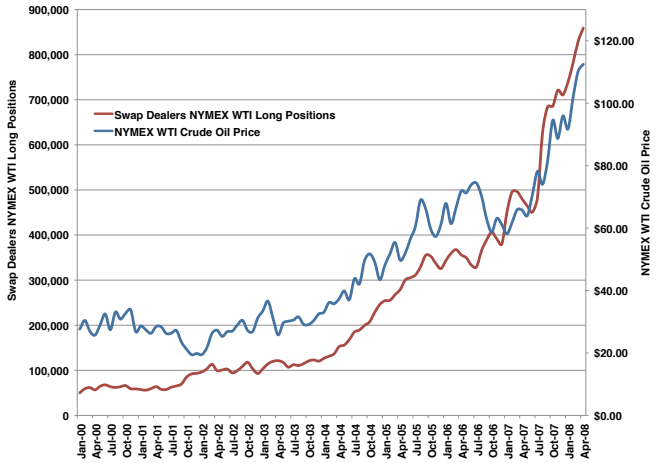
Source: Bloomberg, Goldman Sachs, CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see appendix). Figures represent annual averages and 2008 figure is an average through 7/1/08.

Index Speculators have bought more commodities futures contracts in the last five years than any other group of market participant. They are now the single most dominant force in the commodities futures markets. And most importantly, their buying and trading has nothing to do with the supply and demand fundamentals of any single commodity. They pour money into commodities futures to diversify their portfolios, hedge against inflation or bet against the dollar.

The four largest commodity swaps dealers - Goldman Sachs, Morgan Stanley, J.P. Morgan and Barclays Bank –are reported to control 70% of the commodity index swaps positions. Recently released Commodities Futures Trading Commission (CFTC) data from the House Energy Committee shows that swaps dealers have

grown to become the largest holders of NYMEX WTI crude oil futures contracts. Chart 3 shows that, as their positions have grown in size, so has the price of oil.

Chart 3. Swaps Dealers Positions in NYMEX WTI Crude Oil Futures vs. WTI Price



Source: Commodities Futures Trading Commission (CFTC) via the House Energy Committee, Bloomberg

Congress can put an end to excessive speculation by simply re-establishing meaningful speculative position limits that apply on all exchanges trading U.S.-based commodity futures contracts. These speculative position limits also need to be applied to transactions in the over-the-counter swaps market, since that market is now 9 times bigger than the futures exchanges.

In addition to imposing speculative position limits, Congress should take the additional step of prohibiting or severely restricting the practice of commodity index replication. This practice represents a new threat to the markets because it inflates commodities futures prices, consumes liquidity and damages the price discovery function.

Speculative position limits worked well for over 50 years and carry no unintended consequences. If Congress takes these actions, then the speculative money that flowed into these markets will be forced to flow out, and with that the price of commodities futures will come down substantially. Until speculative position limits are restored, investor money will continue to flow unimpeded into the commodities futures markets and the upward pressure on prices will remain.

CHAPTER ONE: FOUNDATIONAL INFORMATION

Commodities Futures Defined

Commodities futures markets have existed in the United States since 1865.[1] A commodities futures contract is a standardized legal agreement to transact in a physical commodity at some designated future time.[2] It is standardized in the sense that it spells out the time and place of delivery as well as the quantity and quality of commodity to be delivered. The only unspecified portion of the contract is the price, which is determined in the commodities futures marketplace.

Since their inception, commodities futures markets have provided two valuable functions for physical commodity market participants (the actual consumers and producers of the physical commodities). In the Commodity Exchange Act of 1936, Congress recognized that the commodities futures markets provide physical market participants with: (1) the means to offset price risk, and (2) a means for price discovery.[3] Since 1974, Congress has entrusted the Commodities Futures Trading Commission (CFTC) with preserving these two vital functions and with protecting them against the threat of fraud, manipulation and excessive speculation.

First Vital Function: Offsetting Price Risk

Commodities futures markets provide a way for physical commodity market participants to hedge against the risk of price fluctuations. As an example, a physical commodity producer, such as an Iowa corn farmer, who is able to sell futures contracts against the amount of the expected harvest can lock in a price for corn and thereby eliminate price risk. A physical commodity consumer, such as a cereal manufacturer, who is able to buy futures contracts for the amount of corn it needs to produce corn flakes can lock in its input costs and eliminate its price risk.

These physical commodity market participants benefit because they are not at risk from price fluctuations and can therefore plan effectively for the future of their businesses. Because food, energy and industrial metals form the basic building blocks of our economy, the financial health of physical commodity market participants is vital to the overall health of the American economy.

Second Vital Function: Price Discovery

Properly functioning commodities futures markets provide a way for physical commodity market participants to determine with the greatest possible accuracy the current price for physical commodities in the overall marketplace. As an example, the farmer in Iowa needs to know the prevailing price for corn before selling to a local consumer. Knowing the futures price allows the farmer to determine if it makes more sense to ship the corn somewhere else in order to get a better price. Likewise, the cereal manufacturer needs to know the prevailing price for corn so that it can negotiate a fair price with its suppliers.

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[1] "Our History," Chicago Board of Trade, http://www.cbot.com/cbot/pub/page/0,3181,942,00.html

[2] "Financial Futures and Options," Todd E. Petzel, Quorum Books, New York, 1989, page 5.

[3] Commodity Exchange Act of 1936: Title 7 Chapter 1 Section 5a http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=browse_usc&docid=Cite:+7USC5

Commodities, by their very nature, are consumed around the globe. Physical commodity markets exist worldwide, but because commodities are bulky and costly to transport, the prices in these markets can vary substantially. For that reason, commodities futures prices have become the benchmark by which prices are set in the physical markets.[4]

In Chapter Four we discuss the price discovery function in depth.

Since prices are the mechanism by which a capitalist economy functions and allocates resources, having this single benchmark for commodity prices is very valuable. Without the price discovery function of the commodities futures markets, the American economy as a whole would function inefficiently.

Two Traditional Types of Market Participants

Historically, the commodities futures markets have had two distinct categories of participants: bona fide Physical Hedgers and Speculators.

Bona fide Physical Hedgers have already been discussed. These are physical commodity market participants that are trying to reduce or eliminate the price risk they face from their commercial activities in the spot markets. These are the producers and consumers - the corn farmers and the cereal companies of the world.

The commodities futures markets were started by physical commodity producers and consumers to improve their businesses and ultimately to strengthen the economy. These markets exist for their benefit.

Speculators are participants in the commodities futures market who do not have an underlying physical commodity position to hedge. They are hoping to profit from changes in futures prices. When commodities futures markets function as they should, Speculators provide an essential function: they accept price risk in exchange for providing liquidity.

As an example, if our corn farmer wants to sell futures contracts but the cereal company is not in the market that day buying, who can the farmer sell them to? The answer is that Speculators are willing to buy from the corn farmer one day and sell to the cereal company another day. For this reason, the commodities futures markets need a certain number of Speculators in order to ensure sufficient liquidity.

When the commodities futures markets are functioning as they should, Speculators are actively buying and selling and adjusting their prices based on what they think the Physical Hedgers are going to do. Speculators have traditionally been students of the supply and demand dynamics in the underlying physical markets, because those dynamics are what determine the behavior of Hedgers.

As an example, if many corn crops were failing, then farmers would not have as many futures contracts to sell. Because of the reduced supply of corn and the consequent reduced supply of corn futures contracts, futures prices would normally

[4] The terms “physical markets,” “spot markets” and “underlying markets” all refer to the markets in which tangible commodities are bought and sold by actual producers and consumers. In contrast, the futures markets are where derivative contracts based on commodities are traded.

rise. Historically, Speculators have had to understand and act on these dynamics in order to stay in business.

Four Distinct Types of Markets

Commodities futures markets are not capital markets. It is critical to understand the similarities and differences (presented in Exhibit 1) between the four different markets discussed in this report. A thorough understanding of the current problems and proposed solutions is not possible without recognizing these crucial distinctions.

Capital Markets

The two most common capital markets are the debt markets and equity markets. These markets exist to provide debt and equity financing to corporations and other entities. In the *primary markets* bonds and stocks are issued to investors. In the *secondary markets* investors trade these securities back and forth amongst themselves. In 2004-2005, worldwide bond and stock markets totaled approximately $97.9 trillion in size, with debt markets accounting for $54.3 trillion and equity markets $43.6 trillion.[5]

Financial Futures Markets

Commodities futures exchanges began trading futures contracts based on financial securities beginning in the 1970s. These financial futures became very popular in the 1980s. Financial futures are based on things such as Eurodollar deposits, Treasury Bonds, foreign currencies and the S&P 500 stock index. These are derivative markets, so they allow Investors / Speculators to assume price risk or to hedge price risk depending on their position in the underlying securities relative to the futures.[6]

Just like the capital markets, the financial futures markets are the exclusive domain of one type of market participant – Investors / Speculators. Trading for them is also a two-way street, as they trade back and forth amongst themselves.

Exhibit 1. Four Distinct Markets

COMMODITY MARKETS	CAPITAL MARKETS
Crude Oil, Corn, Copper, etc.	Stocks, Bonds, Real Estate, etc.
$1.6 Trillion (2002)	$97.9+ Trillion (2004-2005)
Physical Commodity Producers and Consumers	Investors / Speculators
COMMODITIES FUTURES	**FINANCIAL FUTURES**
Derive their value from physical commodities	Derive their value from capital markets securities
$0.18 Trillion (2004)	$21 Trillion (2008)
Physical Hedgers **AND** Speculators	Investors / Speculators

[5] CIA World Factbook: Debt figure is for 2004 and equity figure is for 2005. https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html#Econ

[6] Within the capital markets and the financial futures markets there is little difference between the trading behavior of Investors and Speculators. Wikipedia has a good description of the differences between investing and speculating and what is commonly defined as investment. http://en.wikipedia.org/wiki/Investing

Financial futures have far surpassed commodities futures in terms of volume and open interest and represent the lion's share of profits for many of the futures exchanges. Total open interest for financial futures was in the neighborhood of $21 trillion in July of this year.[7]

Physical Commodity Markets

Physical commodity markets are tangible real world markets where producers and consumers meet to buy and sell commodities. Rather than being a two-way street where an existing pool of securities is traded back and forth between participants, it is a one-way street where producers produce and consumers consume. Once producers have sold their production, they do not come back to the commodity markets until they have produced more. Likewise, once consumers have purchased commodities, they do not return to the markets until they have consumed what they purchased.

In 2002, the worldwide annual production of the 25 largest and most important commodities in the world was $1.6 trillion.[8] While this is a large number, it is dwarfed by the size of capital markets and financial futures markets.

Commodities Futures Markets

The commodities futures markets are small markets, especially when compared with the capital markets. As we will see in Chapter Three, the commodities futures markets were only $183 billion in size in 2004.

Commodities futures markets are unique because they involve not one but two distinct categories of market participants. Unlike the other markets we have discussed, physical commodity market participants co-exist alongside Speculators. Trading amongst Speculators is generally a two-way street like in the capital markets. In contrast, Physical Hedgers only have to trade once to establish their hedges and then they either take delivery of the physical commodity or unwind their hedges prior to delivery.

This hybrid combination of two distinctly different categories of market participants with differing goals, behaviors and trading patterns make the commodities futures markets unique.

Bringing Clarity to Blurred Distinctions

When financial futures started to gain popularity in the 1980s, many Wall Street investment banks that previously had no presence in commodities futures began to acquire trading firms with seats on the futures exchanges.[9] During the first hundred years that commodities futures markets existed, Wall Street had little interest in

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[7] Rough calculations based on July 1 Commitments of Traders report published by the CFTC. Eurodollars and Treasury Bills are over $14 trillion and $4 trillion respectively.

[8] This figure was calculated using average 2002 prices from Bloomberg and production figures from the Food and Agriculture Organization of the United Nations, the U.S. Geological Survey – U.S. Department of the Interior, and the Energy Information Association – U.S. Department of Energy. These are the same 25 commodities that compose the major commodity indices.

[9] An example of this phenomenon would be the Goldman Sachs purchase of J. Aron in 1981.

commodities futures. It was only after acquiring these futures trading firms to get access to the financial futures markets that Wall Street got interested in the commodities futures business that they inherited as a result of their acquisitions.

Most Institutional Investors today fail to see the distinction between capital markets and commodities futures markets. They can call up Goldman Sachs and purchase instruments in both markets. They can use Bloomberg to get data on both markets, and when they open the Wall Street Journal they can read about both markets. And yet, as we have seen already (and will explore further), there are crucial distinctions between commodities futures markets and all other markets.

Speculative Price Bubbles

It is worth noting that speculative price bubbles occur in capital markets and not in physical commodity markets. In fact, in just the last 10 years the U.S. capital markets have seen three distinct major bubbles: the tech / internet bubble of 1998-2000 (equities), the housing bubble of 2004-2007 (real estate) and the current credit crisis (CDOs / SIVs / subprime) in the debt markets.

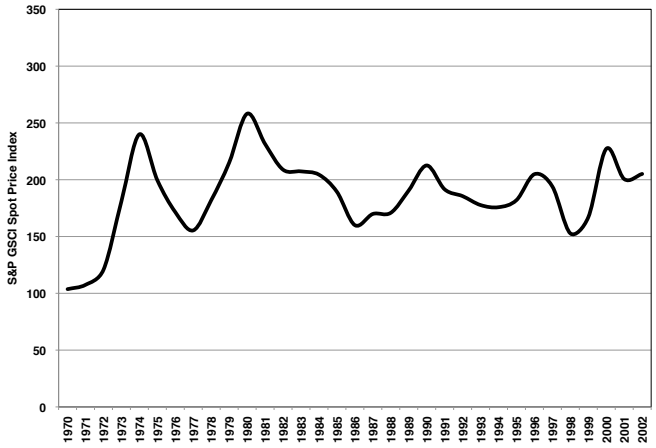
In order for a price bubble to occur, there must be a group of Investors / Speculators, trading back and forth amongst themselves, that are continuously re-valuing upward the profit potential of a class of financial instruments. When consumers purchase physical commodities, they are simply looking to consume those commodities. Consumers don't buy commodities for reasons other than consumption.

Because Speculators participate in commodities futures markets, these markets are capable of experiencing a speculative price bubble. Because Physical Hedgers only want to reduce their price risk, as long as they are the dominant group in the marketplace, speculative bubbles cannot form. But if Speculators somehow become the dominant force, then they can eventually drive the markets to speculative excess. We discuss this in detail in Chapter Five.

Commodities Futures Are Not Investments

Historically, physical commodities themselves have been looked upon as poor "investments" because they have a negative real rate of return. Economists agree that the long-term equilibrium price for a commodity generally equates to its marginal cost of production. Since marginal costs for commodity production have been steady to declining due to the application of modern technology, the prices of commodities have historically not kept up with overall inflation. Chart 4 shows that prior to recent increases, spot commodity prices have traded sideways for three decades.

Chart 4. S&P GSCI Spot Price Index (1970-2002)



Source: Bloomberg

Commodities futures contracts do not pay interest, rents, dividends, or entitle the holder to a share of a company's future cash flow. Therefore, the only return someone can hope to achieve is a favorable change in the price of the contract. This is why buying commodities futures is considered speculation and not investment. For decades, pension plan fiduciaries, as well as other trustees, were prevented from purchasing futures contracts because the Prudent Man rule forbade speculation and therefore prohibited the purchase of futures contracts.[10]

In the early 1990s, the Prudent Investor rule was adopted by most states that allowed trustees to purchase instruments with a view toward the impact it would have on their total portfolio. With the advent of financial futures, futures contracts were no longer expressly prohibited because financial futures could potentially be used to hedge the price risk of financial securities within an investor's portfolio. The Prudent Investor rule did not, however, declare that speculation was acceptable.[11]

[10] "Trust Examination Manual," Federal Deposit Insurance Corporation, Section 3 - Asset Management - Part I(C) Prudent Investments. http://www.fdic.gov/regulations/examinations/trustmanual/section_3/fdic_section_3-asset_management.html#c

[11] ibid.

CHAPTER TWO: RISE OF THE INDEX SPECULATOR

What Is an Index Speculator?

Index Speculators are Institutional Investors engaged in commodities futures trading strategies that seek to replicate one of the major commodities indices by mechanically following that index's methodology. Index Speculators aim to profit from price movements in commodities futures. They are not in the market to hedge an underlying exposure to physical commodities. They are not involved in the production or consumption of actual tangible commodities. Therefore, Index Speculators are not Physical Hedgers; instead, they are a particularly damaging form of Speculator.

Who Are the Index Speculators?

Index Speculators are predominantly Institutional Investors such as corporate and government pension funds, sovereign wealth funds, university endowments, public and private foundations and life insurance companies.[12] Normally, these organizations invest in the debt, equity and real estate markets. According to the most recent estimates, Institutional Investors have approximately $29 trillion dollars allocated to various asset classes.[13]

Why Are They Indexing?

To understand why Institutional Investors would pursue a speculative commodity index replication trading strategy, it is important to understand a little bit of recent history. As was mentioned in the last chapter, prior to the early 1990s, pension funds were banned from trading commodities futures. From the mid 1990s to 2000, pension funds and other investors increased their allocations to stocks. So when the tech bubble burst in 2000, their portfolios suffered. In the subsequent two years, equities performed poorly. Investors were negatively impacted by the 9/11 attacks, the ensuing recession, the Enron and WorldCom accounting scandals and the build-up to the Iraq War.

By 2003, these investors wanted to reduce their holdings of equities and increase their allocation to "alternative assets." Institutional Investors were looking for new asset classes that would provide returns that were uncorrelated with the existing assets in their portfolios. Investments in commodities were being marketed to these pension funds as "providing equity-like returns" while reducing overall portfolio risk.[14] In these pitches, the pension funds were encouraged to make a "broadly-diversified, long-only, passive investment" in commodity indices. The discovery of commodities futures as a new investable asset class was to many of these Investors akin to discovering the Holy Grail.

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[12] Pension funds represent about 65%-75% of institutional assets (source: Standard & Poor's "2008 Money Market Directory"). When we refer to pension funds in this report we are often using them as an example for the overall category of institutional investors.

[13] Tax-exempt assets $26TT: "UK pension fund returns at five-year low," IFAonline, Jennifer Bollen, January 28, 2008. http://www.ifaonline.co.uk/public/showPage.html?page=698204

Sovereign Wealth Funds $3TT: "Sovereign Wealth Funds," Council On Foreign Relations, Lee Hudson Teslik, January 18, 2008. http://www.cfr.org/publication/15251/

[14] "Investing and Trading in the GSCI," Goldman, Sachs & Co., June 1, 2005.

What Are the Indices?

The Standard & Poors - Goldman Sachs Commodity Index[15] and the Dow Jones - AIG Commodity Index[16] are the two most popular commodity indices, with the S&P-GSCI holding approximately 63% market share to the DJ-AIG's 32% market share.[17] Table 1 shows their component weights. The S&P-GSCI has 24 commodities that are weighted according to their worldwide production values. The DJ-AIG has 19 commodities (18 of which it shares with the S&P-GSCI) that are weighted based on worldwide production and liquidity factors.

Because futures prices have become the benchmark for spot prices, both indices are based on commodities futures prices and not on underlying spot prices. The S&P-GSCI and the DJ-AIG are both based predominantly upon the prices of the nearest-to-expiration futures contracts for their respective set of commodities.

Please note that most popular investment indices such as the S&P 500 Stock Index are based upon capital markets securities. The critical distinction between these indices and the commodities market indices is that the commodities indices (the S&P-GSCI and the DJ-AIG) are based not on tangible securities but on derivative instruments – futures contracts.

Table 1. Commodity Index Weights (as of 7/1/08)

		S&P-GSCI	DJ-AIG	Wtd Avg
Agricultural	Cocoa	0.2%	0.0%	0.2%
	Coffee	0.5%	2.7%	2.1%
	Corn	3.6%	6.9%	5.2%
	Cotton	0.7%	2.2%	1.6%
	Soybean Oil	0.0%	2.9%	2.9%
	Soybeans	0.9%	7.4%	5.1%
	Sugar	2.1%	2.8%	2.6%
	Wheat	3.0%	3.4%	3.1%
	Wheat KC	0.7%	0.0%	0.7%
Livestock	Feed Cattle	0.3%	0.0%	0.3%
	Lean Hogs	0.8%	2.5%	1.8%
	Live Cattle	1.6%	4.1%	3.0%
Energy	Brent Crude Oil	14.8%	0.0%	14.8%
	WTI Crude Oil	40.6%	15.0%	36.6%
	Gasoil	5.4%	0.0%	5.4%
	Heating Oil	5.3%	4.5%	5.1%
	Gasoline	4.5%	4.1%	4.4%
	Natural Gas	7.6%	16.0%	11.9%
Base Metals	Aluminum	2.1%	6.9%	5.1%
	Lead	0.2%	0.0%	0.2%
	Nickel	0.5%	1.7%	1.2%
	Zinc	0.4%	1.8%	1.4%
	Copper	2.6%	6.7%	4.9%
Precious Metals	Gold	1.5%	6.1%	4.6%
	Silver	0.2%	2.4%	2.1%

Source: Standard & Poors, Dow Jones and calculations

Because commodities futures expire every one to three months, these indices specify a process of *rolling* the weights of the futures from the expiring month's contract to the next available contract.[18] This rolling of weights takes place on five (5) consecutive business days near the beginning of the month prior to expiration.[19] On each one of these days the

[15] http://www2.standardandpoors.com/portal/site/sp/en/us/page.topic/indices_gsci/2,3,4,0,0,0,0,0,0,1,1,0,0,0,0,0,0.html for the S&P-GSCI

[16] http://www.djindexes.com/mdsidx/?event=showAigHome

[17] Chapter 3 details how much money is benchmarked to each of these indices.

[18] The DJ-AIG says that for commodities with monthly contracts (mostly energy and base metals) they will skip a month and roll to the contract with two months to expiration. The net effect is that the roll occurs 6 times a year instead of 12 times a year.

[19] For the S&P-GSCI the roll period is business days 5-9 and for the DJ-AIG it is business days 6-10.

index transfers 20% of its weight from the expiring contract to the next futures contract.

How Do Pension Funds Allocate Money to These Indices?

In order to replicate these indices a trader must purchase futures contracts and then roll these positions in the exact manner that the indices roll their weight from one contract to the next. Since this roll takes place every month, this strategy requires the trader to be very active in trading futures. For this reason, most Institutional Investors choose to outsource the management of their futures trading to Wall Street Banks.

Reportedly, 85% to 90% of Institutional Investors seeking to allocate money to commodities choose to do so by entering into over-the-counter (OTC) commodity index swaps with Wall Street Banks.[20] Once an institution has entered into the swap agreement, it becomes the Bank's responsibility to trade the futures correctly in order to replicate the index on the investor's behalf

How Does a Swap Work?

In a swap agreement, two counter-parties agree to exchange two different sets of cash flows. The most common swaps are for interest rates, where one party pays a fixed rate and the other party pays a floating rate.

In a typical commodity index swap agreement (depicted below), the pension fund agrees to pay the 3-month Treasury-bill rate plus a management fee to a Wall Street Bank, and the Bank agrees to pay the total return on either the S&P-GSCI or the DJ-AIG index.[21]

Once the swap is entered into, the pension fund will take the notional amount of the swap and invest that amount in 3-month T-bills. This enables the pension fund to make the periodic payments to the Wall Street Bank. Sometimes this strategy is referred to as a collateralized commodities futures strategy because the Index Speculator is effectively posting 100% margin and is therefore fully collateralized.

Diagram 1. Commodity Index Swap

Source: Goldman Sachs

Once entered into, the swap obligates the Wall Street Bank to pay the S&P-GSCI Total Return Index to the pension fund.[22] Therefore, the Bank's swaps trader must hedge the position. In order to perfectly replicate the S&P-GSCI TR index, the trader

[20] "Commodities: Who's Behind the Boom?" Gene Epstein, Barron's, March 31, 2008. Examination of the CFTC's CIT Supplement to the Commitments of Traders report also makes it clear that 85% to 90% of all index positions are held by swaps dealers.

[21] "Investing and Trading in the GSCI," Goldman, Sachs & Co., June 1, 2005

[22] Because assets benchmarked to the S&P-GSCI are nearly double that of the DJ-AIG, all examples reference the S&P-GSCI.

must exactly follow the commodities futures trading strategy outlined by the S&P-GSCI index methodology.

Diagram 2. Commodity Index Swap Hedging

The Goldman Roll

Whether the Index Speculators are trading futures themselves, or they have outsourced their trading strategy to a swaps dealer, there comes a time when their commodities futures position must be rolled in order to avoid delivery of physical commodities. To do this, a trader will enter into a pre-packaged trade called a "calendar spread." In a calendar spread, a trader simultaneously buys a more distant future and sells their closer-to-expiration future. It is commonplace for traders to roll their positions forward to avoid delivery, so the market facilitates these spread trades, which have their own bid and ask quotations. By packaging the buy and sell together as one trade, the market impact on price is minimized.

Even so, when all Index Speculators roll their positions in unison, it impacts the markets significantly. In Chapter Three, when we detail the size of Index Speculators' futures positions, it will become apparent that because all Index Speculators follow the exact same trading methodology, they have a huge impact on the commodities futures markets. A quick Google search for the term "Goldman Roll" will yield many articles from trading websites about how Speculators plan to position themselves in advance of the regularly recurring Goldman Roll phenomenon.[23]

Index Speculators Invest Ultra-Long-Term

It is important to note that pension funds and other Institutional Investors have extremely long investment time horizons. For example, the average duration of a pension fund's portfolio is designed to match the average employee's years until retirement. This can easily be 20 years or more, depending on the organization. That means that when Index Speculators enter into their commodities futures positions, they intend to maintain that position, via continuous rolling, for a very long time. Therefore, they capture large amounts of available liquidity that they have no intention of releasing in the foreseeable future.

We noted in Chapter One that the reason Traditional Speculators were not completely banned from the commodities futures markets was because they provide beneficial liquidity to the markets. An Index Speculator that consumes liquidity for decades at a time hurts rather than helps the commodities futures markets. Investors would not be allowed to hoard physical commodities, they should not be allowed to hoard commodities futures contracts either.

[23] http://www.google.com/search?q=goldman+roll

Index Speculators Are Long-Only

Index Speculators are overwhelmingly "long-only;" they do not take short positions. While this type of investment behavior may be considered desirable in the capital markets, it is detrimental to the commodities futures markets.

If Index Speculators took both long and short positions, then they would push prices both up and down. Some might push them up while others might push them down, thereby canceling each other's impact on market prices. This is what Traditional Speculators do. Unfortunately, Index Speculators lean only in one direction - long - and they lean with all their weight. The result is that they push prices in only one direction - up.

Index Speculators Have a Price-Insensitive Dollar Demand

Physical commodity consumers generally have fixed quantities that they must purchase as inputs for their manufacturing process. They are highly motivated to get the lowest average price per unit in order to minimize their total costs.

Index Speculators, however, are insensitive to unit price. They do not need a set number of units, nor are they concerned with what price they pay. Instead, they have a fixed amount of money to allocate. They will buy as many units as they can at whatever price they have to pay until all of their money has been "put to work." The "passive" nature of Index Speculators has been lauded, but is the root cause for their price insensitivity.

We will detail this highly detrimental aspect of Index Speculator demand in the next two chapters.

Index Speculators Damage The Price Discovery Function

Not only do Index Speculators buy without regard to price they also buy without regard to supply and demand fundamentals. By definition, these Institutional Investors invest in a broad basket of commodities and therefore have little, if any, view on the individual commodities. Every contract traded for reasons other than supply and demand is a contract that damages the price discovery function.

We discuss this in-depth in Chapters Four and Five.

CHAPTER THREE: INDEX SPECULATORS HAVE DRIVEN FOOD AND ENERGY PRICES HIGHER

Introduction

In the last five years, futures prices have risen dramatically because of supply and demand ***and demand***. What do we mean by this? Normal supply and demand in the commodity markets have always had an effect on futures prices, but now for the first time there is a huge new source of artificial financial demand that has also contributed greatly to higher prices. Institutional Investors have poured hundreds of billions of dollars into the commodities futures markets as part of a portfolio allocation decision. This titanic wave of money has greatly amplified the current upward trend of commodities futures prices.

Money Flow, Expressed as Buy Orders, Moves Prices

If a homeowner lists a house for sale and five buyers show up that same day with checkbooks in hand, the homeowner will likely get a higher price for the house than if only one buyer shows up after the house has sat on the market for months.[24] Why is this? It is simple, money moves markets; money moves prices.

When money flows into commodities futures markets it results in buy orders. At the most basic level, buy orders are the only thing that cause prices to rise in the futures markets. When a trader sends a buy order to the exchange floor or presses the "buy" key on a trading terminal, if the trader is attempting to buy more contracts than are currently offered for sale at the market price, then the market price will rise.

As a hypothetical example, if there are 50 WTI Crude Oil contracts offered for sale at $135.10 and another 50 WTI Crude Oil contracts offered for sale at $135.15 then a buy order of 100 contracts will result in the price moving up from $135.10 to $135.15.

Please note that *who* initiates a buy order and *why* it is initiated are irrelevant when it comes to explaining an order's impact on market prices. Almost all trading is anonymous. A 100-contract buy order from a bona fide Physical Hedger locking in input costs will have the exact same price impact as a 100-contract buy order from an Institutional Investor trying to allocate into commodity futures. 100 contracts is 100 contracts and demand is demand, regardless of who is initiating the buy orders and why they are initiating them.

[24] Under both scenarios there is a seller and a buyer but two very different prices.

Institutional Investors Have Driven Prices Higher by Pouring Money into Commodities Futures

Commodities futures market participants fully understand what causes prices to move. As the following quotes from recent research reports show, they know who is largely responsible for the rise in commodities futures prices:

> "A Tidal Wave of Fund Flow - Despite the economic gloom many commodity prices hit new highs in recent weeks, driven largely by investment inflows."[25]
>
> *Citigroup - April 7, 2008*

> "You have a generalized commodity bubble due to commodities having become an asset class that institutions use to an increasing extent."[26]
>
> *George Soros, April 17, 2008*

> *"*The entry of new financial or speculative investors into global commodities markets is fueling the dramatic run-up in prices"[27]
>
> *Greenwich Associates - May 2008*

> "Without question increased fund flow into commodities has boosted prices."[28]
>
> *Goldman Sachs - May 5, 2008*

> "We have argued recently that some of the price buoyancy during Q1 reflected financial flows and investments in oil and other commodities. . . . Our study indicated that for every $100 million in new inflows, WTI prices increase by 1.6%. . . . Our conclusion for this study is that we are seeing the classic ingredients of an asset bubble."[29]
>
> *Lehman Brothers - May 29, 2008*

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[25] "Great Bulks of Fire IV," Citi Commodities Strategy, Alan Heap and Alex Tonks, April 7, 2008, page 1.

[26] "Soros Says Commodity `Bubble' Still in `Growth Phase' (Update3)," Bloomberg News, Saijel Kishan and John Rega, April 17, 2008. http://www.bloomberg.com/apps/news?pid=20601087&sid=aUN8_k_wjFOM&refer=home

[27] "Financial Investors Fueling Commodities Boom," Greenwich Associates, Andrew Awad, Woody Canaday, et al., May 2008, page 1.

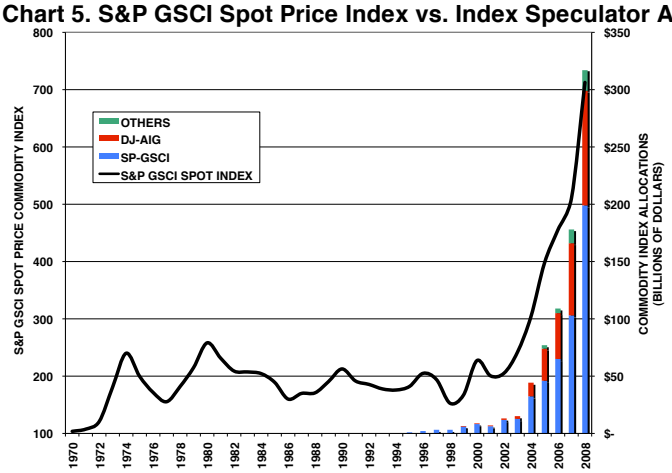
[28] $100 oil reality, part 2: Has the super-spike end game begun?," Goldman Sachs Global Investment Research, Arjun N. Murthi, Brian Singer, et al. May 5, 2008, page 12.

[29] "Oil Dot-com," Lehman Brothers Energy Special Report, Edward Morse, Michael Waldron, et. al., May 29, 2008, page 3.

Index Speculator Demand Has Driven Prices Higher

Chart 5 shows that in the five years from 2003 to July 1, 2008 commodity index investment rose by a factor of 25 times from $13 billion to $317 billion and commodity prices have tripled.

Chart 5. S&P GSCI Spot Price Index vs. Index Speculator Assets



Source: Bloomberg, Goldman Sachs, CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see appendix). 2008 figure is as of July 1, 2008

One of the clearest indications that Index Speculator demand is driving prices higher is the fact that every single one of the 25 commodities which make up the S&P GSCI and the DJ-AIG indices have all risen substantially during the last five years.[30] If purely fundamental economic factors were at work, then one would expect to see some prices going up and some prices going down. Table 2 shows that the prices of these 25 commodities skyrocketed by an average of more than 200% from July 2003 to July 2008

Table 2. Commodity Futures Prices

July 1, 2003 – July 1, 2008

Agricultural	Cocoa	+	101%
	Coffee	+	160%
	Corn	+	214%
	Cotton	+	18%
	Soybean Oil	+	196%
	Soybeans	+	160%
	Sugar	+	121%
	Wheat	+	177%
	Wheat KC	+	190%
Livestock	Feed Cattle	+	30%
	Lean Hogs	+	11%
	Live Cattle	+	48%
Energy	Brent Crude Oil	+	397%
	WTI Crude Oil	+	364%
	Gasoil	+	448%
	Heating Oil	+	399%
	Unleaded Gas	+	298%
	Natural Gas	+	154%
Base Metals	Aluminum	+	124%
	Lead	+	265%
	Nickel	+	157%
	Zinc	+	141%
	Copper	+	433%
Precious Metals	Gold	+	169%
	Silver	+	298%
	Average	+	203%

Source: Bloomberg

The Addition of Index Speculator Demand to Existing Demand Has Created a Massive Demand Shock

In the past when commodities prices have spiked, it has typically resulted from a significant supply shortage, also known as a "supply shock." For instance, the Arab Oil Embargo in 1973 dramatically reduced the available supply of oil and caused oil prices to rise.

[30] These index commodities are also the 25 largest and most important from the standpoint of the world economy. That is why they were chosen to be part of the indices.

Today, commodity prices have risen dramatically but *there are few shortages*. There are no consumers waiting in line for gasoline. OPEC says that there are no supply shortages in the world oil markets.[31] The shelves of grocery stores around the world are stocked. The problem is that people cannot afford to buy the food.[32] It is *prices,* not *supply,* that has led to food riots around the globe.[33]

Currently, the commodities futures markets are experiencing a *demand shock* across all 25 commodities that make up the S&P-GSCI and DJ-AIG. Demand shocks are rare. Events can occur overnight which will wipe out large fractions of supply, but it is rare to see demand for something change dramatically in a short amount of time. A demand shock that would occur simultaneously in the 25 largest and most important commodities is something never before seen in history. But that is exactly what has occurred in the last five years. Even more amazing is the fact that even though commodities futures prices have tripled, demand appears to be growing at an accelerating rate. Pundits have pinned the blame for this demand shock on China but this only goes so far in explaining this phenomenon.

Table 3 on the next page shows how much of each commodity Index Speculators were holding via the futures markets in January 2003 and in July 2008.[34] The middle column represents the net purchases of these Index Speculators in the commodities futures markets during the last 5½ years. It is very important to put these purchases into perspective in order to grasp the magnitude of the impact this additional demand is having upon the markets.

While comparing incremental purchases in the physical commodity markets to incremental purchases in the commodities futures markets is not exactly an apples to apples comparison, it is still instructive for understanding this phenomenon. It gives us a sense of the impact on futures prices that these Index Speculator purchases might have. Since only a fraction of real world consumption is hedged with futures and 100% of Index Speculators purchases occur in the futures market, it is debatable which entity is actually having the greater impact on the futures price.

Crude Oil in Perspective

In the popular press the explanation given most often for rising oil prices is the increased demand for oil from China. Remember, if demand for oil stays the same then prices will stay the same. If supply is constant then demand has to increase for prices to increase. Table 4 on the next page shows that in the last 5½ years China has increased its consumption of petroleum by 992 million barrels. This is far and away the biggest increase of any country. There is little doubt that this increased demand is having some impact on crude oil prices.

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[31] "Market supplied with enough oil, OPEC official says," Reuters, April 5, 2008. http://biz.yahoo.com/rb/080405/iran_opec.html

[32] "The silent tsunami," The Economist, April 17, 2008. http://www.economist.com/opinion/displaystory.cfm?story_id=11050146

[33] "Britain: World Food Crisis a 'Silent Tsunami'," AGENCE FRANCE-PRESSE, April 23, 2008. http://www.nytimes.com/2008/04/23/world/europe/23fbriefs-WORLDFOODCRI_BRF.html?ref=world

[34] See "Appendix: How to Calculate Index Speculators' Position Size"

Table 3. Index Speculators' Futures Purchases Last 5½ Years

		Index Speculators' Futures Stockpile as of 1/1/03	Index Speculators' PURCHASES Last 5½ Years	Index Speculators' Futures Stockpile as of 7/1/08
Cocoa	M Tons	18,828	**297,592**	316,420
Coffee	Pounds	195,716,944	**2,192,733,056**	2,388,450,000
Corn	Bushels	242,561,708	**2,070,808,292**	2,313,370,000
Cotton	Pounds	544,934,999	**5,067,015,001**	5,611,950,000
Soybean Oil	Pounds	163,135,678	**4,346,164,322**	4,509,300,000
Soybeans	Bushels	81,028,272	**829,371,728**	910,400,000
Sugar	Pounds	2,291,358,746	**44,990,337,254**	47,281,696,000
Wheat	Bushels	166,738,225	**893,321,775**	1,060,060,000
Wheat KC	Bushels	54,746,014	**89,193,986**	143,940,000
Feed Cattle	Pounds	104,446,612	**475,803,388**	580,250,000
Lean Hogs	Pounds	517,414,747	**4,536,865,253**	5,054,280,000
Live Cattle	Pounds	669,766,732	**6,202,713,268**	6,872,480,000
Brent Crude Oil	Barrels	47,075,357	**161,236,643**	208,312,000
WTI Crude Oil	Barrels	99,880,741	**580,433,259**	680,314,000
Gas Oil	M Tons	1,682,662	**6,700,238**	8,382,900
Heating Oil	Gallons	1,067,859,608	**2,739,650,392**	3,807,510,000
Unleaded Gas	Gallons	1,102,184,401	**2,646,903,599**	3,749,088,000
Natural Gas	MM Btu	330,652,415	**1,975,417,585**	2,306,070,000
Aluminum	M Tons	344,246	**3,252,704**	3,596,950
Lead	M Tons	82,019	**179,731**	261,750
Nickel	M Tons	20,147	**102,715**	122,862
Zinc	M Tons	133,381	**1,175,419**	1,308,800
Copper	M Tons	220,096.25	**1,160,192**	1,380,288
Gold	Ounces	979,863	**8,737,837**	9,717,700
Silver	Ounces	11,126,862	**149,353,138**	160,480,000

Source: CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see Appendix: How to Calculate Index Speculators' Positions)

Looking at Table 3 it shows how much petroleum Index Speculators have purchased via the futures markets. Table 5 converts metric tons and gallons into their barrel equivalents showing that Index Speculators have increased their demand for petroleum by 919 million barrels in the last 5½ years. This means that the increase in Index Speculators' demand is nearly equivalent to the increase in Chinese demand.

Table 4. Increase in Chinese Demand for Petroleum (Last 5½ Years)

Year	Consumption (Barrels Per Year)	Year over Year Change
2002	1,883,660,777	
2003	2,036,010,338	152,349,561
2004	2,349,681,577	313,671,240
2005	2,452,800,000	103,118,423
2006	2,654,750,989	201,950,989
2007	2,803,010,200	148,259,211
2008	2,948,835,000	72,912,400
	Total Change	**992,261,824**

Source: Energy Information Administration, U.S. Department of Energy. Note: 2008 figure is an estimate and change figure is for half a year.

Table 5. Increase in Index Speculator Demand for Petroleum (Last 5½ Years)

Petroleum Product	Barrels
Brent Crude Oil	161,236,643
WTI Crude Oil	580,433,259
Gas Oil	49,045,744
Heating Oil	65,229,771
Unleaded Gas	63,021,514
Total Change	**918,966,932**

Source: CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see Appendix: How to Calculate Index Speculators' Positions)

China is having an impact and it is well-known, but Index Speculators are having a similarly massive impact in the futures markets and the majority of commentators are unaware that it is even taking place. There is little question that traditional economic factors are playing a part in commodity price increases, but Index Speculator demand is also having a very significant impact on commodity futures prices.

Table 3 shows Index Speculators have built a futures stockpile of nearly 1.1 billion barrels of crude oil and crude products. This means Index Speculators have stockpiled more paper barrels of oil than all the physical barrels of oil in all U.S. commercial storage tanks and the Strategic Petroleum Reserve combined.[35]

Copper in Perspective

In 2002, world copper consumption was 15 million metric tons. For 2007, total world demand for copper was 17.7 million metric tons - an increase over 5 years of 2.7 million metric tons. China represented 2 million tons of the increase and the rest of the world was 670,000 tons. Looking at Table 6, it shows that during this same time period, Index Speculators increased their copper futures position by the equivalent of 1.1 million metric tons of copper, better than half of China's increased consumption and greater than the increased consumption of the entire rest of the world.

Table 6. Increase in Index Speculator Demand for Copper

(2002 through 2007)

	Metric Tons
China	2,039,776
Index Speculators	**1,160,192**
Rest of the World	673,310

Source: World Bureau of Metal Statistics, CFTC Commitments of Traders CIT Supplement and calculations (see Appendix)

The United States is the 2nd largest copper producer in the world behind Chile.[36] Index Speculators' current stockpile of copper futures, at 1.4 million tons, is greater than the total annual production of all the mines in the United States.[37] Building construction is the largest use for copper in the United States; Index Speculator's stockpile of copper futures could potentially supply the U.S. building construction industry for almost an entire year.[38]

Wheat in Perspective

In 2007 Americans consumed 2.22 bushels of wheat per person.[39] That means all Americans combined consumed about 665 million bushels of wheat in 2007. At 1.3 billion bushels, the current wheat futures stockpile of Index Speculators is now potentially enough to supply every American with all the bread, pasta and baked goods they can eat for the next two years!

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[35] Energy Information Administration - U.S. Department of Energy, Petroleum Navigator, http://tonto.eia.doe.gov/dnav/pet/pet_stoc_wstk_dcu_nus_w.htm

[36] U.S. Geological Survey, Mineral Commodity Summaries, January 2008, http://minerals.usgs.gov/

[37] U.S. Geological Survey http://minerals.usgs.gov/minerals/pubs/commodity/copper/

[38] Copper Development Association, http://www.copper.org/education/c-facts/homepage.html

[39] Economic Research Service, U.S. Department of Agriculture, http://www.ers.usda.gov/Briefing/Wheat/consumption.htm

Corn in Perspective

With food prices skyrocketing in the last year many economists are casting about for an explanation for the price move. They have focused on the fact that a third of the U.S. corn crop has been diverted away from exports and into ethanol production.[40] What most economists have not considered is the fact that Institutional Investors have purchased over 2 billion bushels of corn futures in the last five years. Right now Index Speculators have stockpiled enough corn futures to potentially fuel the entire United States ethanol industry at full capacity for a year.[41] That means producing 5.3 billion gallons of ethanol, which would make America the world's largest ethanol producer.[42]

Sugar in Perspective

In 2007, Brazil was the world's largest ethanol producer. Brazil produces ethanol from sugarcane. If Index Speculators were to use their current stockpile of refined sugar futures to produce ethanol it would potentially produce more than 2.6 billion gallons of ethanol,[43] which would replace at least six months of U.S. ethanol production.

[40] "The End Of Cheap Food," The Economist, December 6, 2007. http://www.economist.com/research/articlesBySubject/displaystory.cfm?subjectid=7216688&story_id=10252015

[41] "Ethanol Reshapes the Corn Market," Economic Research Service - U.S. Department Of Agriculture, Allen Baker and Steven Zahniser April 2006. http://www.ers.usda.gov/AmberWaves/April06/Features/Ethanol.htm

[42] "Ethanol Production Could Be Eco-Disaster, Brazil's Critics Say," Kelly Hearn, National Geographic News, February 8, 2007. http://news.nationalgeographic.com/news/2007/02/070208-ethanol.html

[43] "Australian Liquid Biofuels National Production Boundaries," Brian Fleay, January 2006. http://www.aspo-australia.org.au/References/Fleay/Fleay06BiofuelsVsPetrol.pdf

Index Speculators Have Bought More Commodities Futures than All Other Groups Combined

Table 7 compares Index Speculators purchases from Table 3 with purchases by the two other categories – Physical Hedgers and Traditional Speculators. It shows that Index Speculators have bought more commodities futures contracts in the last five years than any other group of market participants. In fact, they have bought more contracts than both Physical Hedgers and Traditional Speculators combined.

Table 7. Futures Contract Purchases by Category (Last 5½ Years: January 1, 2003 to July 1, 2008)

	Physical Hedgers	Traditional Speculators	Index Speculators
Cocoa	-32,461	65,060	29,759
Coffee	-6,570	27,727	58,473
Corn	231,324	216,533	414,162
Cotton	40,618	19,019	101,340
Soybean Oil	715	10,332	72,436
Soybeans	13,305	73,360	165,874
Sugar	133,073	110,068	401,699
Wheat	13,136	34,942	178,664
Wheat KC	-5,967	12,226	17,839
Feed Cattle	3,210	374	9,516
Lean Hogs	12,399	21,955	113,422
Live Cattle	7,435	26,349	155,068
WTI Crude Oil	433,997	527,787	580,433
Heating Oil	-21,534	1,366	65,230
Unleaded Gas	14,957	38,719	63,022
Natural Gas	10,129	118,918	197,542
Gold	-9,936	124,967	87,378
Silver	3,455	7,054	29,871
TOTAL	841,284	1,436,756	2,741,728

Source: CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see appendix). Note that Physical Hedgers in this table are equivalent to the Commercial category. Any Traditional Speculators utilizing the swaps loophole (see Ch. 6) show up here as Physical Hedgers. This table does not include spread trades or non-reported trades. WTI crude oil figures include NYMEX, ICE and NYMEX financial contracts as well as CFTC reclassification. CFTC does not report data for non-U.S. traded commodities.

If Index Speculators have bought more futures contracts than everyone else, is it not reasonable to assume that they have had one of the largest impacts on futures prices?

Index Speculator Demand Is Huge Compared to the Size of Commodities Futures Markets

During the period from January 2003 to July 2008, the amount of money allocated to commodity indices grew from $13 billion to $317 billion. Most of the increase was from investor inflows, but a portion was due to the growth of prior period investments.

There is no publicly available data that shows the total amount of inflows into commodity indexation trading strategies, but some approximations can be made. End-of-year investment figures can be calculated using CFTC data[44], and annual performance is known. Therefore, the amount that the prior year's investment has grown or shrunk can be computed. The remaining difference in the yearly change has to come from net inflows.[45] Table 8 shows estimated annual inflows for the two major commodity indices as well as the total.

Table 8. Estimated Annual Inflows (Billions)

	S&P-GSCI	DJ-AIG	TOTAL
2004	$16.2	$8.9	$25.1
2005	$4.8	$12.4	$17.2
2006	$28.2	$11.3	$39.5
2007	$14.7	$15.4	$30.1
2008	$44.5	$17.0	$61.5
		Total Inflows	**$173.4**

Source: Author calculations

The best way to estimate the size of the commodities futures markets is to look at the average daily dollar value of open interest for each commodity.[46] When Wall Street Banks go out to pitch Institutional Investors on allocating money to OTC commodity index swaps, open interest is the gauge that they use to express the size of the commodities futures markets.[47]

Table 9 (on the next page) calculates the average daily dollar value of open interest by multiplying the average daily open interest in contracts times the average daily price. It shows that the average daily size of the commodities futures markets during 2004 was only $183 billion.[48] Looking back to Table 8, it shows that approximately $25 billion flowed into index replication strategies in 2004. So Index Speculator investment was about 14% of total market size. This amount of inflow had to have a huge impact.

[44] See "Appendix: How to Calculate Index Speculators' Positions" for more details

[45] When during the year the inflows occurred is not known, so the assumption is made that all net inflows occurred evenly throughout the year. Changing assumptions on net inflow timing only affects the rate of growth for that year's inflow, which never amounts to more than a few billion dollars difference.

[46] Some market participants think that volume is a better measure of market depth, but most of the volume on the exchanges is generated by scalpers or day traders who want to profit from the ebbs and flows of intra-day price moves. For investors that plan to hold their positions for more than a few hours, open interest is the better measure of market depth, since any position held overnight is captured in the open interest figures.

[47] "Investing and Trading in the GSCI," Goldman, Sachs & Co., June 1, 2005.

[48] Table 9 has no data for base metals in 2004. If base metals are assumed to be approximately $33 billion (like 2005), that would make the total commodities futures market size around $183 billion. Since base metals prices rose from 2004 to 2005 this is a conservative assumption. The $183 billion figure appears in Chapter 1.

Table 9. Commodities Futures Markets Size – Dollar Value of Open Interest (Billions)

	2002	2003	2004	2005	2006	2007	2008
Cocoa	$1.8	$1.5	$1.6	$1.9	$2.0	$2.7	$4.1
Coffee	$1.4	$1.7	$2.7	$3.8	$4.2	$6.3	$8.4
Corn	$5.4	$5.1	$8.2	$7.7	$15.1	$23.8	$41.9
Cotton	$1.6	$3.0	$2.6	$2.8	$4.3	$6.8	$11.1
Soybean Oil	$1.4	$2.0	$2.5	$1.9	$3.2	$5.8	$8.7
Soybeans	$4.9	$7.3	$9.5	$8.8	$10.1	$20.9	$34.6
Sugar	$1.5	$1.7	$2.8	$5.1	$8.6	$8.2	$13.9
Wheat	$1.8	$1.9	$2.6	$3.8	$7.4	$11.6	$17.2
Wheat KC	$1.3	$1.1	$1.2	$1.5	$3.1	$4.1	$5.3
Feed Cattle	$0.5	$0.8	$0.8	$1.3	$1.5	$1.4	$1.7
Lean Hogs	$0.6	$0.9	$1.9	$2.3	$3.3	$3.9	$5.2
Live Cattle	$2.7	$3.6	$3.6	$4.9	$6.7	$7.9	$9.7
Brent Crude Oil	$6.6	$8.5	$12.6	$19.4	$31.1	$45.7	$61.8
WTI Crude Oil	$16.1	$20.4	$33.6	$55.3	$96.4	$171.0	$295.7
Gas Oil	$4.0	$3.7	$5.5	$10.2	$14.7	$21.0	$27.7
Heating Oil	$4.4	$5.1	$8.2	$11.8	$13.6	$17.9	$28.3
Unleaded Gas	$3.7	$3.9	$7.3	$10.3	$11.4	$16.1	$29.3
Natural Gas	$23.6	$27.8	$25.9	$42.4	$45.1	$54.1	$87.3
Aluminum	$-	$-	$-	$12.3	$23.7	$27.6	$34.9
Lead	$-	$-	$-	$0.7	$1.0	$2.2	$2.0
Nickel	$-	$-	$-	$2.0	$4.4	$6.7	$6.7
Zinc	$-	$-	$-	$2.7	$6.8	$6.9	$6.3
Copper	$-	$-	$-	$15.4	$31.5	$34.0	$41.8
Gold	$5.6	$9.9	$13.2	$13.9	$18.9	$24.9	$40.1
Silver	$2.0	$2.4	$3.7	$4.3	$6.4	$7.4	$11.8
TOTAL	$91.0	$112.2	$150.1	$246.5	$374.5	$538.7	$835.2

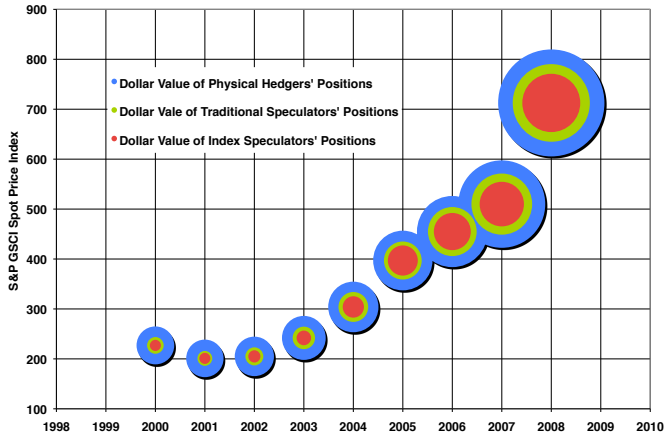
Source: CFTC Commitment of Traders and Bloomberg. For Base Metals, Brent Crude and Gasoil open interest represents futures only. No data for Base Metals in 2002-2004. All other commodities include delta-equivalent options positions but spread positions are omitted. WTI crude oil figures include NYMEX, ICE and NYMEX financial contracts. Figures represent annual averages and 2008 figure is an average through 7/1/08.

To put it in proper perspective, it was mentioned in Chapter One that the worldwide equity markets are $44 trillion in size. What would happen to worldwide stock prices if the stock markets experienced an inflow of 14% or $6.1 trillion? The worldwide oil markets involve production and consumption of 85 million barrels per day.[49] What would happen to oil prices if the world demand for oil jumped by 14% or 11.8 million barrels per day? It is clear that prices would rise dramatically.

Tables 8 & 9 show that while the commodities futures markets were only $183 billion in 2004, Index Speculators poured $173 billion into the markets over the ensuing 4½ years. This caused the market to expand and prices to rise dramatically in order to accommodate this huge growth in demand. Looking at Chart 6 we can see this dynamic at work. Each year as Index Speculators' positions expand, the size of the total market expands and prices are forced to rise in order to absorb these huge inflows of money.

[49] Energy Information Administration - U.S. Department of Energy
http://www.eia.doe.gov/emeu/international/oilconsumption.html

Chart 6. Commodities Futures Market Size (Billions) vs. S&P GSCI Spot Price Index



Source: Bloomberg, Goldman Sachs, CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see appendix). Figures represent annual averages and 2008 figure is an average through 7/1/08.

We can also see that the consistent positive price performance of commodities futures has attracted more and more Speculators into the markets. Chart 6 shows that in the first half of 2008, Index Speculators poured money into the markets at the fastest rate yet, causing prices to rise at the fastest pace to date. As Table 8 shows, an estimated $61 billion flowed into these markets in just the first six months of 2008. So while the demand from physical commodity consumers is dropping as prices increase, the demand from Index Speculators is growing even more. This growth in artificial financial demand explains why commodities prices are continuing to rise in 2008 despite physical demand decreases.

Index Speculator Demand Is Insensitive to Price

The price insensitivity of Index Speculators makes them far more damaging to the markets than Traditional Speculators. Traditional Speculators and Physical Hedgers are highly sensitive to the price they pay per unit for any particular commodity; their buy and sell decisions are determined by price per unit.

Index Speculators, in contrast, approach the commodities futures markets with a certain number of dollars, and they will buy however many units they can at whatever price they have to pay until all of their money is “put to work.” It would be like a person who goes to an auto dealership with $500,000 and is unconcerned with how many cars can be bought or what the price per car is as long as the entire $500,000 gets spent.

If a pension fund allocates $500 million to the S&P-GSCI, that means it has to purchase $200 million worth of WTI crude oil contracts. The pension fund trader (or swaps dealer) will go out and start buying contracts. If the full $200 million can not be spent buying contracts at the current price then the trader will pay higher and higher prices in order to induce other traders to sell. Remember, there is only one goal: to put the $200 million into crude oil. The pension fund does not care what the per-barrel price is. If they have to drive prices up 30, 40, 50 cents in order to induce someone to sell to them, then they will do it and not think twice. They simply pour money into the markets until all their money is “put to work.”

Market Power Is Concentrated in the Hands of Large Swaps Traders

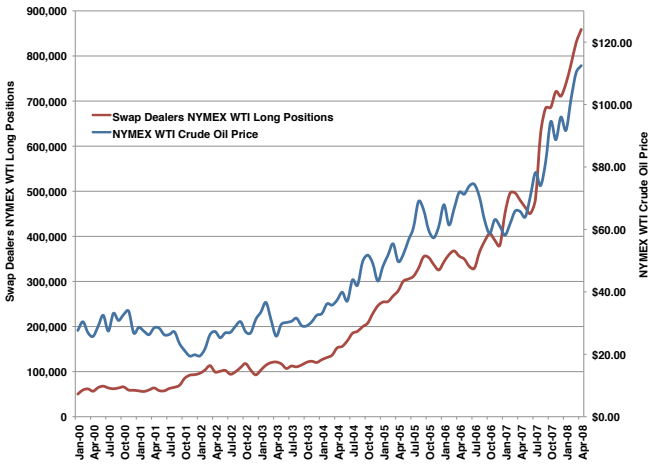
It has been reported that 85% to 90% of all Index Speculators implement their trades through commodity swaps. Further reports indicate that four swaps dealers control 70% of these positions.[50] This means that 60% of all the positions attributed to Index Speculators are controlled by the commodity index swaps traders at four Wall Street Banks. According to Greenwich Associates, the four largest commodity swaps dealers are Goldman Sachs, Morgan Stanley, J.P. Morgan and Barclays Bank.[51]

Index Speculators average about 40% of total long open interest.[52] Therefore, these four swaps traders control an average of 24% of total long open interest for the 25 commodities that make up the indices. That means one out of every four contracts on the commodities futures exchanges is controlled by these four Wall Street Banks. This represents tremendous power over markets and pricing.

Example of Swaps Dealers' Influence over WTI Crude Oil

CFTC data on swaps dealers' positions in NYMEX WTI crude oil futures contracts, recently released by the House Energy Committee, shows that swaps dealers are now the single largest holder of WTI futures contracts on NYMEX. In April of 2008 they held 30% of all outstanding contracts.[53] Chart 7 shows that when one plots the rise of swaps dealers' futures positions with the rise in WTI crude oil prices, there is a very strong correlation.

Chart 7. Swaps Dealers Long Positions in WTI Crude Oil Futures vs. WTI Price



Source: Commodities Futures Trading Commission (CFTC) via the House Energy Committee, Bloomberg

[50] "Commodities: Who's Behind the Boom?," Gene Epstein, Barron's, March 31, 2008.
[51] "The Global Commodities Boom," Greenwich Associates, Andrew Awad, Woody Canaday, et al., May 2008, page 1.
[52] See Table 10 in Chapter 5.
[53] In April 2008 (the most recent available data) swaps dealers in total held 858,877 contracts on the long side of the market. Average April open interest was 2,905,408 contracts, which results in 30% market share. This CFTC data can be accessed at the House Energy Committee website: http://energycommerce.house.gov/Investigations/EnergySpec.shtml

Summary

As hundreds of billions of dollars have poured into the relatively small commodities futures markets, prices have risen dramatically. Index Speculators working through swaps dealers have been the single biggest source of new speculative money. This has driven prices far beyond the levels that supply and demand would indicate, and has done tremendous damage to our economy as a result.

CHAPTER FOUR: PRICE DISCOVERY FUNCTION

Introduction

The price discovery function of commodities futures markets is absolutely critical to the economic health of the United States. If prices in the futures markets are inflated due to reasons other than true supply and demand, then spot prices will also be inflated, causing great damage to our economy.

Commodities futures markets exist for two purposes: price discovery and risk hedging. If prices in the futures markets do not correlate with real world spot prices, then it becomes impossible to hedge effectively. Therefore, commodities futures prices must correlate with spot prices or the markets fail in the fundamental purpose for which they were created.

There are three primary ways in which futures prices impact spot prices. In certain markets, the spot price is the futures price, in most markets there is an arbitrage link between spot and futures prices, and in all markets futures prices are the benchmark for spot market transactions.

Spot Prices Are Equal to Futures Prices in Grain and Energy Markets

Because commodities are bulky and costly to transport, spot markets for commodities are geographically dispersed. Many decades ago, local markets relied almost exclusively on local supply and demand to determine prices, with the result being that there were sometimes great differences between prices in various regional spot markets.

This pricing mechanism began to change in the 1980s when spot market participants in the agricultural and energy markets moved to embrace centralized futures markets as the best indicator of overall supply and demand conditions across all spot markets.[54] These spot market participants agreed to price nearly all spot market transactions at the futures price plus or minus a "local basis" or "differential."

Pricing spot transactions at the futures price plus or minus a spread was beneficial to physical commodity producers and consumers for two reasons. First, they trusted and believed that the futures price was the best indication of overall supply and demand in the marketplace. Therefore, by pricing their transactions off the futures price they would not have to search for a better price in some other corner of the overall market since presumably the futures price was the most accurate overall price. Second, by specifying that their spot market transactions would take place at the futures price, Physical Hedgers were able to fully and effectively hedge their transactions using futures contracts. Their only residual risk was the local basis, or differential, that under normal market conditions typically reflected the cost of transportation between various spot markets.

[54] "The Structure of Global Oil Markets—A Backgrounder," Platts, A Division of McGraw Hill Companies, July 2007, page 5. http://www.platts.com/Resources/whitepapers/index.xml. Additionally, conversation with Tom Buis, President of National Farmers Union, June 10, 2008.

Price Discovery in Grains

The CFTC describes the price discovery function this way: "In many physical commodities (especially agricultural commodities), cash market participants base spot and forward prices on the futures prices that are "discovered" in the competitive, open auction market of a futures exchange."[55]

As an example, a wheat farmer delivering crops to the local grain elevator will be paid the Chicago Board of Trade (CBOT) wheat futures price plus or minus the local basis spread. Any grain elevator's website will typically refer to the CBOT futures prices, along with a quote of the local basis. That means that if Wheat futures prices rise by 20 cents, then if the local basis does not change, then spot Wheat prices will also rise by 20 cents.

Price Discovery in Energy

Platts, which is the leading pricing service for the energy industry, describes this pricing mechanism this way: "In the spot market, therefore, negotiations for physical oils will typically use NYMEX as a reference point, with bids/offers and deals expressed as a differential to the futures price. Using these differentials, Platts makes daily and in some cases intra-day assessments of the price for various physical grades of crude oil, which may be referenced in other spot, term or derivatives deals."[56]

As an example of how this works, a New England Heating Oil distributor buying heating oil from the local wholesaler is going to be paying the NYMEX heating oil futures price plus or minus a local differential. That means that when the futures price rises by 20 cents, if the differential does not change, then the spot price will also rise by 20 cents, typically the same day.

The same is true for WTI crude oil. If a U.S. oil refinery wants to buy a tanker of crude oil, then the price it pays will be the NYMEX WTI crude oil futures price, plus or minus a local differential. Therefore, when the paper barrel price rises by one dollar, then the physical barrel price will also rise by one dollar.

Under this present system, price changes for key agricultural and energy commodities originate in the futures markets and then are transmitted directly to the spot markets. For these commodities, what happens in the futures markets does not stay in the futures markets, but is felt almost immediately in the spot markets.

All Storable Commodities with Physical Delivery Provisions Can Be Arbitraged

When there is a significant difference between futures prices and spot prices, market participants can enter into arbitrage transactions, which will enable them to earn risk-

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[55] "The Economic Purpose of Futures Markets and How They Work - Price Discovery or Price Basing," Commodities Futures Trading Commission Website, http://www.cftc.gov/educationcenter/economicpurpose.html

[56] "Platts Oil Pricing and Market-on-Close Methodology Explained - A Backgrounder," Platts, A Division of McGraw Hill Companies, July 2007, page 3. http://www.platts.com/Resources/whitepapers/index.xml

free profits. The net result of these arbitrage transactions is to drive futures and spot prices together and ensure that they move in lockstep.

As an example, if the price for copper in the spot market is $1,700 a ton and the price of the copper futures contract with three weeks to delivery is $1,900 per ton, then a copper producer could sell a futures contract, store the copper in a warehouse for three weeks, and deliver the copper against that contract. By doing this, the copper producer is taking this supply of copper off the spot market, which will cause spot prices to rise relative to the futures, while their sale of the futures contract will cause futures prices to come down.

Alternatively, a Speculator could do the same thing by selling the futures contract, renting storage space, buying the copper on the spot market at $1,700, paying the storage costs to store the copper for three weeks, and then delivering the copper against the futures contract. In this case, their purchase of the copper on the open market is going to push spot prices up while their sale of the futures contract would push futures prices down.

The net effect of this strong linkage between futures prices and spot prices is that historically, when futures prices rise, spot prices rise along with them. So when Institutional Investors drive futures prices higher, the effects are felt immediately in spot prices and the real economy.

Futures Prices Are the Benchmark for Spot Market Transactions

For all commodities with active futures markets, the spot market participants are keenly aware of what futures prices are doing and generally look at futures prices as a gauge for pricing their spot market transactions. They make business decisions based on futures prices, which then affect the spot market and its prices.

One of the reasons that Goldman Sachs and Dow Jones based their commodities indices on commodities futures rather than spot commodities is the fact that futures prices are the best benchmark for overall spot prices. When they say on the news that a certain commodity reached a record-high price, they are typically referring not to spot prices but instead to the nearest-to-expiration futures contract. There is not a spot market trader in any physical commodity market that is not continuously aware of what futures prices are doing.

The Effect of Over-the-Counter Derivatives Markets on the Price Discovery Function of Futures Markets

The physical markets, futures markets and over-the-counter (OTC) swaps markets are all part of one big market. Physical Hedgers, Swaps Dealers and Speculators are participating in all three markets. If an oil producer can get a better price in the swaps market than the futures market or the physical market, then that producer will sell production via swaps. If a swaps dealer can get better prices on hedges in the futures market than in the swaps market, then the dealer will hedge with futures. For this reason there are strong arbitrage links between all three markets.

When an Index Speculator purchases a commodity index swap from a Wall Street Bank, that swaps dealer will turn around and hedge that swap in either the OTC or

the futures markets.[57] If the swaps dealer buys futures as a hedge, then the Index Speculator's purchase directly impact the futures price. If they match the Index Speculator's purchase against a Physical Hedger's sale then it still impacts the futures price because that Physical Hedger's sale would otherwise flow to the floor of the futures exchange.

As an example, if Index Speculators want to buy one million barrels of crude oil in swap form and Exxon wants to sell one million barrels of crude oil in swap form, then one cancels out the other. If the Index Speculator had not been there demanding crude oil in the swaps market, then in order to hedge Exxon's sale of one million barrels the swaps dealer would have sold one million barrels worth of crude oil futures on the exchange. So by intercepting the sale of one million barrels in the swaps market, the Index Speculator has prevented one million barrels of selling pressure in the futures market. This means that (all things being equal), prices in the futures market will be higher than they otherwise would be.

Whether an Index Speculator buys in the futures market or the swaps market it has the same impact on prices since both are part of the overall market. This highlights the importance of looking at the OTC markets in conjunction with the futures markets. According to Bank of International Settlements data the notional value of OTC commodity derivatives is now over $9 trillion.[58] This means that futures markets are the tip of the iceberg when compared with OTC markets. And just like an iceberg we have no idea what lies below the surface since these are completely unregulated "dark" markets with zero transparency.

Summary

Physical commodity producers and consumers trust and rely upon the price discovery function of the commodities futures markets to accurately reflect the overall level of supply and demand, pricing their spot market transactions in many cases directly off the applicable futures price. Unfortunately, their trust has been betrayed. Excessive speculation is inflating prices beyond what supply and demand fundamentals would suggest. If this trend continues unabated, then physical commodity producers and consumers will be forced to roll back the progress of the last 25 years and revert to the old pricing system.

[57] It is also possible for them to hedge the position with physical commodities since most swaps dealers have the ability to take and make delivery, especially in energy. See for instance: http://www.ubs.com/1/e/canada/about/commodities/presence.html

[58] "Semi-Annual OTC Derivatives Statistics" Bank of International Settlements, December 31, 2007. http://www.bis.org/statistics/otcder/dt1920a.pdf and http://www.bis.org/statistics/derstats.htm

CHAPTER FIVE: EXCESSIVE SPECULATION

Introduction

The commodities futures markets are capable of reaching a state of excessive speculation. This occurs when Speculators replace Physical Hedgers as the dominant force in the marketplace. When commodities futures markets become excessively speculative, the price discovery function becomes damaged and eventually destroyed. The dramatic influx of Index Speculators has now brought us to a tipping point where our commodities futures markets are descending into a state of excessive speculation.

Because Speculators, both Index and Traditional, have distinctly different supply and demand curves when compared with Physical Hedgers, two states of the market are possible. We examine these differences in detail and then look at the state of the commodities futures markets today.

Physical Hedgers: Normal Supply and Demand Curves

Physical commodity producers and consumers have supply and demand curves that match what one would expect. As commodity prices rise, a producer wants to sell more and a consumer wants to buy less. As commodity prices fall, a producer wants to sell less and a consumer wants to buy more.

Notice that these production and consumption decisions have the effect of tempering price moves and reducing price volatility. If prices rise then demand decreases and supply increases, causing prices to revert toward equilibrium. If prices fall then demand increases and supply decreases also causing prices to revert toward equilibrium.

These supply and demand curves translate directly into the futures markets when physical commodity producers and consumers buy and sell futures to hedge their production and consumption. If a producer has more production, then it can sell more futures contracts and vice versa. If a consumer wishes to consume more, then more futures contracts can be bought and vice versa.

Note that Physical Hedgers are motivated to buy and sell in order to reduce their price risk. Therefore, they do not buy or sell in quantities greater than their underlying physical commodity exposure.

For these reasons, the buying and selling of physical commodity producers and consumers is always a direct reflection of the actual supply and demand that they are experiencing firsthand in the underlying commodity markets. Their trading decisions always strengthen the critical price discovery function of the futures markets.

Index Speculators: Insensitive Supply and Demand Curves

Index Speculators are insensitive to the supply and demand fundamentals in the individual commodity markets to which they are allocating money. By definition, these Institutional Investors invest in a broad basket of commodities and have little, if any, view on individual commodities. Chances are very good that the trustees making these investment decisions could not even name the 25 commodities that make up the major commodity indices.

If a pension fund decides to allocate $500 million to a commodities futures strategy that replicates the S&P GSCI, the $200 million that consequently flows into WTI Crude Oil futures has nothing to do with the actual supply or demand for crude oil in the real world. The $15 million that flows into Wheat futures has nothing to do with the actual supply and demand for wheat.

The reasons an Institutional Investor might want to allocate money to commodities vary widely. Perhaps their investment committee recently voted to allocate millions of dollars to commodities for the purpose of diversification. They might manage a commodity index mutual fund or ETF, and have received cash inflows from investors. Perhaps they are seeking to hedge against inflation or to make a bet against the U.S. dollar. Or perhaps the performance in another part of their portfolio has been great and they want to rebalance by adding to their commodities futures position to maintain it at a fixed percentage of their portfolio's total value.

All of the aforementioned reasons have almost nothing to do with the actual supply and demand of the individual commodities that are part of the index basket. Therefore, every single contract traded for one of these reasons is a contract that weakens the price discovery function.

It is clear that hundreds of billions of dollars have poured into the 25 commodities that make up the major commodities futures indices, for reasons other than supply and demand. The consequent price increases we have seen are a result of excessive speculation and not real world supply and demand fundamentals. This greatly damages the price discovery function.

Traditional Speculators: Adaptive Supply and Demand Curves

Traditional Speculators are always motivated by profit.[59] Unlike the Physical Hedger who always buys and sells due to supply and demand and the Index Speculator who almost never buys and sells due to supply and demand, Traditional Speculators can and will adapt their buy and sell decisions to the reality they experience in the commodities futures marketplace.

Two States of the Commodities Futures Markets

There are two general states of the commodities futures markets. There is the normal state in which Physical Hedgers are the dominant force and prices are determined predominantly by supply and demand. And there is an abnormal state of excessive speculation in which Speculators are the dominant force and prices are determined by factors other than supply and demand.

This two-state phenomenon is only possible because there are two distinct classes of market participants. There are no other markets that we know of that have two classes of participants and therefore two distinct possible states.

[59] We do not in any way seek to imply that there is anything dishonorable about making a profit. We are Speculators and we try to make profits every day – there is nothing wrong with generating returns for investors or for one's self.

Normal State

In a market that is dominated by the buying and selling decisions of Physical Hedgers who trade strictly based on supply and demand fundamentals, Traditional Speculators will base their trading decisions on those same supply and demand fundamentals. Traditional Speculators do this because they know that Physical Hedgers will move the prices (due to their dominance) and since Traditional Speculators want to profit from price moves, they go along.

If, for instance, Traditional Speculators observe that a flood in the Midwest is threatening the supply of corn, then they know that physical corn consumers will be motivated to hedge their price risk fearing price increases. They also know that physical corn producers will not be as motivated to sell futures contracts since they either have a reduced corn crop or they also anticipate rising prices. Therefore Traditional Speculators will make trading decisions according to this fundamental information.

Just like fellow Speculators in the capital markets, Traditional Speculators experience the same two governing emotions of fear and greed.[60]

Greed, in the prior example, will make them want to buy futures contracts in anticipation of what others in the market will do. At the same time fear will encourage them to not get carried away. They know that in a normal market if prices rise sufficiently, then physical consumers will reduce their purchases of futures contracts while physical producers will increase their sales of futures contracts to lock in the higher prices.

Notice that Traditional Speculators totally match their trading behavior to the buy and sell decisions of the Physical Hedgers. They buy and sell based on supply and demand fundamentals. They also do not get carried away because they know that price moves will be tempered by the supply and demand responses of physical commodity producers and consumers.

State of Excessive Speculation

In a market that is dominated by Speculators and not by Physical Hedgers, Traditional Speculators' trading is not necessarily disciplined by traditional supply and demand considerations because the "enforcers" of supply and demand, the Physical Hedgers, are no longer wielding the influence over prices that they once were.

In this scenario, Speculators that see prices rising for any reason at all (it does not have to be based on fundamental supply and demand, although it could be) will want to jump on the bandwagon and profit too. There are many trading strategies, such as trend-following and momentum investing, that encourage exactly this type of trading.[61] Add to this the fact that managers of other people's money are paid on relative performance and if Manager A is achieving higher returns in a particular commodity index, then Managers B & C have a strong incentive to participate in

[60] See http://en.wikipedia.org/wiki/Behavioral_finance for a list of books on the topic

[61] Remember there is no "value investing" in commodities futures since commodities have no investment value. Their only value is in consumption.

order to not fall behind. It is this phenomenon that leads to another hallmark trait of capital markets – herd investing.[62]

All of these factors have the strong potential to lead to upward price pressure and the amplification of an existing upward price trend.

When this happens, Traditional Speculators' fear of price reversion is replaced by the fear of selling short in the face of this strong upward price trend. Traders will say things like "I'm not going to step in front of a freight train," meaning that when there is considerable momentum, Traditional Speculators are afraid of selling short and consequently being "run over."

In fact, some of the Traditional Speculators that fail to adapt their trading strategies to the new market reality will get run over and go out of business due to trading losses. This will leave the surviving Traditional Speculators to thrive in the new environment and it will strengthen their motivation to follow the new trading strategies.

The amplified positive price trend that is created in a state of excessive speculation draws the attention of other Speculators. These new Speculators decide to jump on the bandwagon and that begins a vicious cycle of accelerating price increases and greater price volatility.

Traditional Speculators are capable of surviving and thriving in both types of markets. If Physical Hedgers dominate the markets, then the trading decisions of Traditional Speculators will mimic them and will strengthen the price discovery function. But if Speculators rule the markets then Traditional Speculators will, by necessity, adapt to the new reality, which will weaken the price discovery function.

Implications of the Differing Supply and Demand Curves of Commodities Futures Markets Participants

When commodities futures markets enter a state of excessive speculation then they become susceptible to the formation of speculative price bubbles. The longer commodities futures markets remain in a state of excessive speculation, the more damage is done to the price discovery function.

As long as physical commodity producers and consumers are the dominant market participants they will "enforce" supply and demand fundamentals through their hedging decisions. If Speculators become dominant, then the commodities futures markets can become excessively speculative. Just like in the capital markets, speculative price bubbles can form.

There is a big difference, however, between price bubbles in the capital markets and price bubbles in the commodities futures markets. When internet stocks double or triple in value, then it does not affect the health or livelihood of your average citizen. But when food and energy prices skyrocket, then the economies of the developed world suffer greatly and the populations of developing countries are threatened with starvation.[63]

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[62] See http://en.wikipedia.org/wiki/Behavioral_finance for a list of books on the topic

[63] "The silent tsunami," The Economist, April 17, 2008. http://www.economist.com/opinion/displaystory.cfm?story_id=11050146

The Tipping Point Where Speculation Becomes Excessive

If we were academics we would say that speculation becomes excessive at the point that the marginal benefit of the liquidity that Speculators provide is exceeded by the marginal cost of the damage that they do to the price discovery function. Since we cannot quantify that point, as a practical matter, if the price discovery function is being damaged in a noticeable way, then a market has already passed the point of excessive speculation. Given that most physical commodity producers and consumers today believe that the futures markets have become un-tethered from supply and demand fundamentals, this is one of the strongest indications that the commodities futures markets are currently excessively speculative.

At the point that commodities futures markets "tip" into excessively speculative territory, Traditional Speculators wake up to the new market reality and abandon the "supply and demand" camp in favor of the "inflation hedge," "weak dollar," "uncorrelated alpha," et cetera camp. They begin to base their trading decisions not on supply and demand but on the current market conditions they see around them.

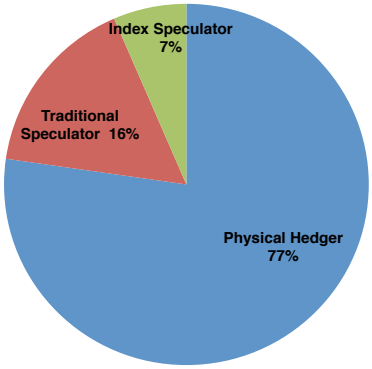
As we discuss in the next chapter, it is precisely this type of tipping point phenomenon that speculative position limits were originally designed to prevent. It would not be possible for a market to reach the tipping point if all Speculators were subject to reasonable and rigid position limits.

Today's Commodities Futures Markets Are Excessively Speculative

In the last five years Index Speculators have become the single most dominant force in the commodities futures markets. Graph 1 from Table 10 shows that in 1998, Physical Hedgers were dominant on the long side of the market. Physical Commodity Consumers represented 77% of the reported long open interest. Physical Hedgers outnumbered Speculators by an average of more than 3 to 1.

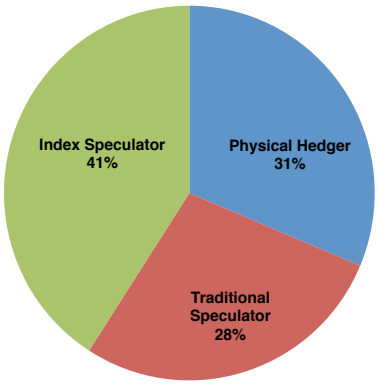
Graph 2 from Table 10 shows that in 2008 the market looks radically different. First, Index Speculators are the dominant force on the long side of the market, with an average of 41% of the reported long open interest. When combined with Traditional Speculators, fully 68% of the long positions are speculative in nature meaning that Speculators now outnumber Physical Hedgers by more than 2 to 1.

Graph 1. Long Open Interest - 1998



Source: see notes on Table 10

Graph 2. Long Open Interest - 2008



Source: see notes on Table 10

Table 10. Commodities Futures Markets - Long Open Interest Composition

	1998			2008		
	Physical Hedger	Traditional Speculator	Index Speculator	Physical Hedger	Traditional Speculator	Index Speculator
Cocoa	89.3%	9.2%	1.5%	34.4%	44.7%	20.9%
Coffee	80.6%	17.7%	1.7%	28.7%	29.6%	41.7%
Corn	87.2%	8.5%	4.4%	40.6%	22.5%	36.8%
Cotton	84.4%	13.5%	2.2%	36.3%	22.6%	41.1%
Soybean Oil	72.7%	27.3%	0.0%	45.5%	19.8%	34.8%
Soybeans	86.6%	11.0%	2.4%	28.5%	28.2%	43.3%
Sugar	87.2%	9.4%	3.4%	36.0%	17.4%	46.5%
Wheat	67.5%	21.3%	11.3%	15.9%	18.2%	65.9%
Wheat KC	86.3%	5.4%	8.3%	38.1%	27.6%	34.2%
Feed Cattle	52.4%	37.3%	10.3%	17.0%	45.2%	37.8%
Lean Hogs	56.6%	27.6%	15.8%	13.6%	19.1%	67.3%
Live Cattle	67.6%	23.8%	8.6%	11.7%	27.3%	61.0%
WTI Crude Oil	84.1%	3.5%	12.4%	42.5%	28.6%	28.8%
Heating Oil	87.8%	2.0%	10.2%	36.5%	14.0%	49.5%
Unleaded Gas	80.0%	4.3%	15.7%	36.5%	23.4%	40.0%
Natural Gas	90.0%	3.0%	7.0%	58.3%	12.7%	29.0%
Gold	90.1%	8.5%	1.3%	19.8%	54.5%	25.7%
Silver	40.7%	59.0%	0.4%	24.2%	44.1%	31.7%
AVERAGE	77.3%	16.2%	6.5%	31.3%	27.8%	40.9%

Source: CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see Appendix: How to Calculate Index Speculators' Positions). Note that Physical Hedgers in this table are equivalent to the Commercial category. Any Traditional Speculators utilizing the swaps loophole (see Ch. 6) show up here as Physical Hedgers. This table does not include spread trades or non-reported trades. WTI crude oil figures include NYMEX, ICE and NYMEX financial contracts as well as recent CFTC reclassification. Figures represent annual averages and 2008 is average through 7/1/08.

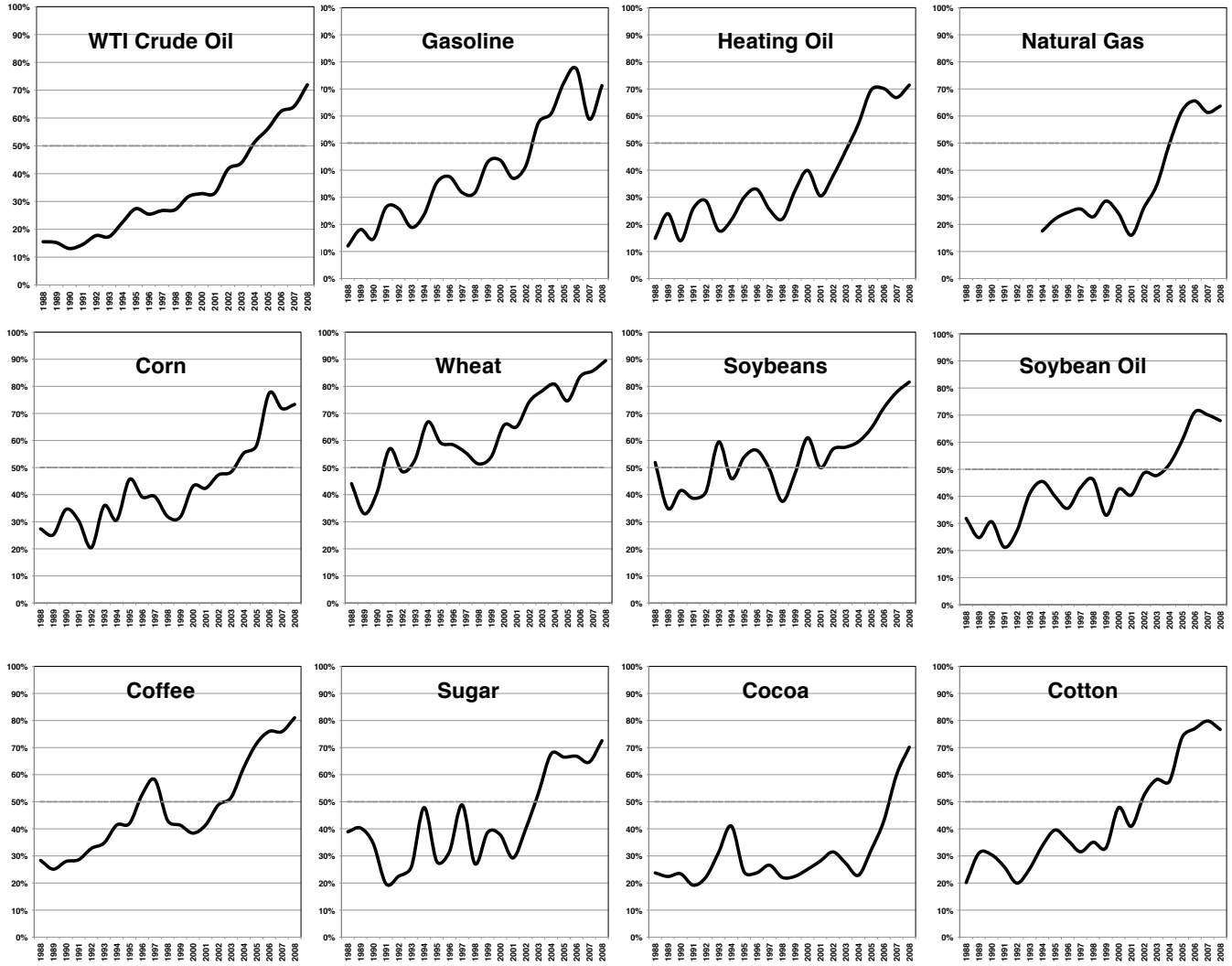
It is important to understand what a monumental shift this represents.[64] In the last 10 years Physical Hedgers' positions have risen by 90%. During the same time Speculators' positions have grown by more than 1300%. And this does not include the growth in speculative spread trading which has also been very large.

[64] As a hypothetical example: in order to go from a 3:1 ratio of Hedgers to Speculators to a 2:1 ratio of Speculators to Hedgers the size of speculative positions has to increase 500%. If Hedgers own 3 contracts and Speculators own 1 contract, then Speculators need to buy 5 contracts before their positions (now 6 to 3) will be double the size of Hedgers.

Speculation Has Grown To Excessive Levels in Almost All Commodities

This enormous growth in speculation has not been limited to just a few commodities. The charts below show that speculation has grown tremendously in almost all the commodities that are part of the major commodity indexes. Index Speculation is affecting all the index commodities in the same detrimental way. One can see that in each of these cases we went from a market dominated by Physical Hedgers ten years ago to a market that is dominated by Speculators today.

Chart Compilation: Speculation Percentage in Energy, Grains and Softs (1988-2008)



Source: CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see Appendix: How to Calculate Index Speculators' Positions). Since spread trades are speculative trades according to the CFTC they are included. WTI Crude Oil includes NYMEX, ICE and NYMEX financial contracts as well as recent CFTC reclassification. Figures represent annual averages and 2008 is average through 7/1/08.

Summary

When two-thirds of all positions and an even larger fraction of all trading is done by Speculators, it becomes apparent that the ability of physical commodity producers and consumers to influence price determination is seriously diminished. Many Physical Hedgers have started to question their participation in markets that no longer reflect supply and demand.

It is clear that the price discovery function has been grossly distorted and that because the commodities futures markets are now dominated by Speculators (of which the Index Speculator is the most damaging type), prices in these markets move for reasons that increasingly have little to do with specific commodity supply and demand fundamentals.

Because of this disassociation between futures prices and the supply and demand realities in the physical markets, the commodities futures markets are no longer able to serve the only constituency they were ever intended to serve: bona fide Physical Hedgers. Many bona fide Physical Hedgers, now greatly outnumbered and having to transact in a market that is mainly driven by the activities of large institutional Speculators, are questioning the value of the futures markets for hedging purposes.

If this trend continues, we can expect to see many physical commodity producers and consumers abandon the futures markets entirely as a vehicle for hedging purposes and price discovery. At that point, the futures markets' destruction from excessive speculation will be complete.

CHAPTER SIX: SPECULATIVE POSITION LIMITS

Introduction

The remedy for excessive speculation has been well-known since at least 1936. The speculative position limits put in place by the Commodity Exchange Act did a good job of protecting the commodities futures markets for over 50 years. Unfortunately, beginning in 1991, speculative position limits have been raised, circumvented and eliminated, with the result being the excessively speculative markets we are experiencing today.

Condensed History of Speculative Position Limits

The Commodity Exchange Act of 1936 prescribed speculative position limits for agricultural commodities in order to prevent commodities futures markets from becoming overly speculative.

> "The fundamental purpose of the measure is to insure fair practice and honest dealing on the commodity exchanges and to provide a measure of control over those forms of speculative activity which too often demoralize the markets to the injury of producers and consumers and the exchanges themselves."[65]
>
> "It should be our national policy to restrict, as far as possible, the use of these exchanges for purely speculative operations."[66]
>
> "The bill authorizes the Commission . . .to fix limitations upon purely speculative trades and commitments. Hedging transactions are expressly exempted. That this power of the Commission will be exercised judiciously and for the purposes merely of preventing overspeculation and a type of 'racketeering' by a few large professional traders, may be assumed as a matter of course."[67]

These limits were very effective in preventing excessive speculation and commodity price bubbles. The CFTC in 1981 mandated that all commodities futures should be covered by speculative position limits.[68]

Then, throughout the 1980s and the 1990s, financial futures gained in popularity until they came to dwarf commodities futures in terms of volume and dollar value of open interest. This meant that the CFTC was devoting most of its time and resources to regulating financial futures and not commodity futures.

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[65] Report No. 421, U.S. House of Representatives 74th Congress, Accompanying the Commodity Exchange Act, March 18, 1935.

[66] President Franklin D. Roosevelt message to Congress February 9, 1934.

[67] Report No. 421, U.S. House of Representatives 74th Congress, Accompanying the Commodity Exchange Act, March 18, 1935.

[68] October 16, 1981—The CFTC adopts Regulation 1.61 (now part of CFTC Regulation 150, 17 CFR 150) requiring exchanges to establish speculative position limits in all futures contracts. http://www.cftc.gov/aboutthecftc/historyofthecftc/history_1980s.html

There is no threat of excessive speculation in financial futures because every participant in that market is an Investor / Speculator. Financial futures only need position limits in order to prevent a single Speculator from manipulating the market.[69]

Commodities futures are the only markets where two distinct classes of market participants transact – Physical Hedgers and Speculators. Speculative position limits in the commodities futures markets are needed not only to prevent manipulation but to ensure that Physical Hedgers remain dominant.

Somehow it appears that during this time period the CFTC lost sight of the crucial differences between financial futures and commodities futures. The CFTC began to equate excessive speculation with manipulation and they came to believe that position limits were only necessary to prevent manipulation.[70]

Excessive Speculation Is Not the Same as Manipulation

The Commodity Exchange Act clearly does not consider "excessive speculation" and "manipulation" to be the same thing. If it did, then it would not mention them separately and propose different remedies for each.[71] Physical commodity producers and consumers are capable of manipulating the market and the CFTC has to provide strong oversight to make sure that this does not happen. But because Physical Hedgers are not Speculators, they can never make the market excessively speculative.

It seems clear that Congress saw the dangers of excessive speculation in the commodities futures markets, and that is why they prescribed a specific remedy of speculative position limits. And for decades regulators recognized the inherent value of speculative position limits and set them at levels that truly were a limit to speculation.

Position Limits Raised

As commodities futures markets grew in terms of volume and open interest, the size of a position that a Speculator would need to manipulate the market grew as well. Since the CFTC has recently been focused on preventing manipulation and not excessive speculation, the CFTC has raised speculative position limits for agricultural

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[69] "In general, position limits are not needed for markets where the threat of market manipulation is non-existent or very low. Thus, speculative position limits are not necessary for contracts on major foreign currencies and other financial commodities that have highly liquid and deep underlying cash markets. A contract market may impose, for position accountability *[sic]* provisions in lieu of position limits for contracts on financial instruments, intangible commodities, or certain tangible commodities, which have large open interest, high daily trading volumes, and liquid cash markets." – "Speculative Position Limits," CFTC Website http://www.cftc.gov/industryoversight/marketsurveillance/speculativelimits.html#P8_883

[70] ibid.

[71] "However, Section 4a (7USC6a) is expressly concerned with "excessive speculation" and thus is not specifically an anti(-)manipulation provision. Rather, section 4a focuses upon market disorders attributable to unbridled speculative activity, without regard to whether that speculative frenzy has a manipulative purpose." Section 5.02[1] "Derivatives Regulation," Philip McBride Johnson and Thomas Lee Hazen, Aspen Press, 2004, page 1235.

commodities several times in the last decade.[72] By raising speculative position limits the CFTC has allowed speculation to increase and become excessive.

Position Limits Evaded

In 1991 the CFTC started to give commercial exemptions from position limits to swaps dealers for the purposes of hedging their over-the-counter swaps transactions.[73] The rationale was that, like a physical commodity producer or consumer, these swaps dealers had an exposure that they were trying to offset and that they were not entering into these large positions for the purpose of manipulating prices. Since the CFTC did not see the potential for manipulation (which was their focus), the CFTC allowed these swaps dealers virtually unlimited access to the futures markets on par with what bona fide Physical Hedgers enjoy.

In so doing, the CFTC has opened a loophole for unlimited speculation. If a Speculator wants to take a large futures position for which they would normally face a speculative position limit, they can get around that by going to a Wall Street Bank and entering into a swap contract. These Wall Street Banks offer swaps on solitary commodities, which means they become a surrogate for Speculators wanting to circumnavigate position limits.[74] As an example, a Speculator that wants to take a $500 million position in Wheat (clearly outside speculative position limits) can do so via a single commodity index (Wheat) swap.

This has opened up a loophole that allows unlimited speculation through swaps. There is clearly a big difference between a bona fide Physical Hedger who is trying to reduce price risk and a Wall Street Bank that is not in the physical commodities business at all and is simply serving as a conduit for Speculators.

Note finally that the inclusion of swaps dealers in the commercial category of the CFTC's "Commitments of Traders" reports has made these reports essentially meaningless. One can no longer look at the commercial category to gauge the amount of speculation present in the marketplace. This has left regulators and policymakers without the ability to accurately assess the level of speculation present in the commodities futures markets.

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[72] See for instance, 63 FR 38525 (July 17, 1998), 70 FR 24705 (May 11, 2005), 72 FR 65483 (November 21, 2007). We could find no evidence that speculative position limits have ever been tightened by the CFTC or an exchange in the last 10 years.

[73] "And that actually happened in 1991 with a particular swap dealer that was hedging an OTC transaction with a pension fund, and the swap dealer came to us, and we said, "yeah, that qualifies for a hedge exemption," so we granted a hedge exemption to the swap dealer. And in the years since then, we've done the same for other swap dealers, as well." - Remarks of Don Heitman, Division of Market Oversight, CFTC Agricultural Advisory Committee Meeting, Washington, D.C., December 6, 2007
www.cftc.gov/stellent/groups/public/@aboutcftc/documents/file/aac_12062007.pdf

[74] "Similar hedge exemptions were subsequently granted in other cases where the futures positions clearly offset risks related to swaps or similar OTC positions involving both individual commodities and commodity indexes." 72 FR 66097, Notice of Proposed Rulemaking, Risk Management Exemption From Federal Speculative Position Limits, November 27, 2007.
http://www.cftc.gov/stellent/groups/public/@lrfederalregister/documents/file/e7-22992a.pdf

Position Limits Eliminated

In 1998 the CFTC codified a practice they had been engaged in for several years that basically allowed commodities futures exchanges in "large and liquid" commodities futures markets to replace speculative position limits with position accountability limits.[75] Position accountability limits do not actually limit Speculators in the size of the positions they can take. Instead, they represent a threshold after which the futures exchange is supposed to watch the Speculator's position with greater vigilance in order to prevent manipulation.[76]

Since exchanges get paid based on the volume of futures contracts that are traded and Speculators trade much more frequently than Physical Hedgers, the exchanges have a strong incentive to set the position accountability limits as high as possible and then to only intervene if there is manipulation taking place. The prevailing attitude is that *manipulation* is bad for business but *speculation* is great for business. Since the largest U.S. futures exchanges are now publicly traded for-profit corporations who are promising earnings growth to their shareholders, they cannot be relied upon to combat excessive speculation.

The CFTC sets federal speculative position limits for enumerated agricultural commodities, but the exchanges set all other position limits. In WTI crude oil, for instance, the NYMEX has replaced speculative position limits with position accountability limits except in the last three days prior to expiration. So effectively, there are no limits for WTI crude oil. Foreign Boards of Trade like the Intercontinental Exchange (ICE) are happy to comply with NYMEX's position limits because there essentially are none.

Summary

As we have shown, there is only one class of commodities futures market participant that can be counted upon to always buy and sell based on supply and demand and always strengthen price discovery: the Physical Hedgers. That is why speculative position limits are necessary in order to ensure that they remain dominant.

To repair the damage to the price discovery function and to bring food and energy prices down to levels that more accurately reflect supply and demand, Congress should take action to undo the changes made to speculative position limits.

[75] "the Commission is proposing to codify an exemption permitting exchanges to substitute position accountability rules for position limits for high volume and liquid markets." 63 FR 38525 (July 17, 1998) http://www.cftc.gov/foia/comment98/foi98--028_1.htm.
See also footnote 69.

[76] In many ways this is a semantic charade because futures exchanges are actively monitoring all market participants. It is a foolish notion that someone with 21,000 WTI futures contracts will be actively monitored but someone with 19,000 WTI futures contracts will not be.

CHAPTER SEVEN: LEGISLATIVE SOLUTIONS

Introduction

The erosion and elimination of speculative position limits has made it possible for hundreds of billions of dollars to flow unimpeded into the commodities futures markets. This unbridled flow of money is one of the principal causes of the dramatic price increases we have seen. Congress must re-establish real speculative position limits in order to reverse the flow of speculative money and to wring the excess out of the commodities futures markets. Speculative position limits have worked effectively for decades and will work again without unintended consequences if Congress will take action.

In addition, Congress must tackle the issue of Index Speculation head on. Solving the excessive speculation problem will help reduce Index Speculation somewhat but many Index Speculators will still be able to slip in underneath the new speculative position limits. Because of the damage they do to the price discovery function they need to be prohibited or severely restricted in their ability to buy commodities futures.

Step One: Re-Establish Federal Speculative Position Limits for All Speculators in All Commodities in All Markets

Congress should convene separate panels composed **exclusively** of physical commodity producers and consumers for each individual commodity. These panels shall recommend reasonable speculative position limits in the spot month as well as in all other individual months, and as an aggregate across all months. For commodities where real limits have been replaced by "accountability" limits, real limits must be re-established. Speculative position limits for all commodities should be Federal and should be enforced by the CFTC and not the exchanges, in order to ensure compliance.

The commodities futures markets exist solely for the benefit of bona fide Physical Hedgers, so they are best qualified to set the limits. These physical market participants understand the benefits of liquidity and will do nothing to jeopardize their ability to hedge. The CFTC can reject the Congressional panels' recommendations, but they must be required to explain their rationale to Congress as well as their proposed alternative.

Speculative position limits must apply to every market participant (exempting bona fide Physical Hedgers) whether they access a futures market directly or trade in the over-the-counter market through swaps and other derivatives. Speculative position limits must "look through" any swap transaction and apply to the ultimate counterparty as if the transaction had been done on an exchange.

These position limits must be made to apply to any foreign boards of trade that are trading futures contracts that involve physical delivery inside the United States or that cash settle against contracts that involve physical delivery or cash settle against an index of U.S. prices. In other words the Swaps loophole, the London loophole and all other loopholes must be fully closed. If all the loopholes are not fully closed, then investors will be able to maintain access to U.S.-based commodities through one of these loopholes and the excessively speculative money will not flow out of the markets.

Under this regulatory regime, if a panel of oil producers and oil consumers sets the speculative position limit at 3,000 contracts (equal to three million barrels of oil or about $400 million at today's prices) then a Speculator can trade the equivalent of three million barrels through an OTC swap or on the NYMEX or on ICE. But their total position across all three markets cannot exceed three million barrels.

Further, these speculative position limits must be established at the control entity level so that a Speculator cannot establish five shell subsidiaries and then trade 15 million barrels of oil.

Congress has two options for ensuring that speculative position limits apply in the over-the-counter swaps markets. Option one is to force all swaps dealers to clear their swaps transactions through the applicable futures exchange. This would have the added benefit of strengthening the current system and increasing its transparency Option two would be to require swaps dealers who want to access the futures markets for any purpose to report all of their swaps transactions directly to the CFTC.[77] With this data the CFTC could calculate how much of a hedging exemption these swaps dealers would qualify for.

As a final note, Wall Street Banks that own physical commodity businesses should not have an unlimited commercial exemption from position limits. If a Wall Street Bank wants to take positions that are bigger than its swaps book or its underlying commodity business then it must be subject to the same speculative position limits as every other Speculator in the marketplace.

Step Two: Define Excessive Speculation Numerically

Part of the reason that the term "excessive speculation" became synonymous with "manipulation" was that the Commodity Exchange Act lacked a concrete definition of the term. Congress should clearly define excessive speculation and go the extra step of providing a specific remedy for situations in which individual Speculators are within their position limits and yet a specific commodity futures market as a whole is still excessively speculative.

Each Congressional panel of physical commodity producers and consumers should define numerically, based on a percentage of open interest, what constitutes "excessive speculation." As an example, physical crude oil producers and consumers may decide that the crude oil futures markets should never be more than 35% speculative (not including spreads) on a percentage of open interest basis.

The CFTC should be instructed to establish "circuit breakers" (a concept familiar to equity market participants) that adjust individual speculative position limits downward in order to prevent any individual commodity futures markets from reaching the overall limit established by the panel. These adjustments to individual limits should happen in a gradual fashion and be based on data that is averaged over time in order to minimize the impact on the markets. A Speculator whose existing position exceeds the newly established limit, by virtue of the downward adjustment in limits, would not be required to sell; they would simply be unable to add to their position.

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[77] Congress might consider requiring any financial institution that desires access to any of the CFTC's regulated markets (including financial futures markets) to submit to the reporting requirement for over-the-counter commodity swaps transactions.

Building on our earlier crude oil example, the CFTC could publish a sliding scale from 25% to 35% of speculative open interest that pares back the individual position limits from 100% to 20% of their normal size. So if the established aggregate speculative position limit was normally 3,000 contracts at an overall speculative percentage of 25% or less, then if overall speculation reaches 30%, perhaps the individual position limit would adjust downward to 1,800 contracts.[78]

Step Three: Eliminate (or Severely Restrict) Index Speculation

Index Speculators consume liquidity for the ultra long-term. Every single futures contract they trade damages the price discovery function. They have made the commodities futures markets excessively speculative. And they are one of the most dominant forces in the commodities futures markets today. If they were removed from the markets then Physical Hedgers would once again become the dominant force in the commodities futures markets. This action is necessary to repair the price discovery function.

There lies a problem within a problem. Index Speculation has led to excessive speculation. If you solve the excessive speculation problem through speculative position limits, the Index Speculation problem will remain, since many Index Speculators will still be beneath the limits. Additional measures must be taken to address Index Speculation head on.

We offer 6 possible avenues for restricting or eliminating Index Speculation knowing that "where there is a will there is a way." There might be more and creative ways to address the problem and we support any solution that eliminates Index Speculation.

1. Legislation could be passed which prohibits any Institutional Investor from investing in commodity index replication or substantially similar trading strategies that involve a pre-specified trading methodology and portfolio composition of three or more U.S. based commodities with the intention of maintaining a substantially uni-directional position for a largely uninterrupted and extended period of time. The CFTC could then develop guidelines for what constitutes an index replication or substantially similar strategy.

2. Number 1 above could be modified to impose a position limit on Index Speculators (expressed in dollars or in contracts) that is substantially less than the new limits that are imposed on Traditional Speculators. Index Speculators provide no beneficial liquidity to the commodities futures markets and instead inflict significant damage upon the price discovery function so they should be treated separately from all other Speculators.

3. By purchasing commodities futures contracts, in direct competition with U.S. corporations attempting to hedge their physical consumption, Institutional Investors are driving up prices and squeezing out actual businesses that need the futures markets to hedge. For that reason, it makes sense that tax-exempt entities that generate profits from trading futures contracts should have those profits taxed as Unrelated Business Taxable Income (UBTI). This is a clear case of a tax-exempt entity directly competing with a taxable entity.

[78] If position limits range between 3,000 contracts (100%) and 600 contracts (20%) based on an overall speculative percentage of 25% to 35%, then at 30% (the midpoint) speculative position limits would equal 1,800 contracts, which is halfway between 3,000 and 600.

4. We would advocate eliminating indexing strategies at their source by modifying the Prudent Investor rule to make it clear that commodities futures are speculative instruments that are not prudent investments for trustees' portfolios.

5. The Commodities Exchange Act states, when discussing speculative position limits, that "such limits upon positions and trading shall apply to positions held by, and trading done by, two or more persons acting pursuant to an expressed or implied agreement or understanding, the same as if the positions were held by, or the trading were done by, a single person."[79] Since Index Speculators are all acting in express agreement by following the exact same published trading methodology, they should all be collectively subject to the speculative position limits of a single Speculator. Congress could compel the CEA to enforce this provision. Then the amount of money allocated to index replication would have to drop from the current level of $317 billion to the limits of a single Speculator, approximately $8 billion.

6. Congress could also compel the CFTC to use its emergency powers to make Index Speculator positions "liquidation only" so that positions cannot be increased in size.

Benefits of these Proposals

There are two key benefits related to these three proposed legislative changes.

First, there are no unintended consequences associated with speculative position limits. We have had them since 1936 and they have been very effective at preventing excessive speculation while at the same time allowing for a healthy amount of liquidity within the commodities futures markets. By enacting these proposals, Congress would simply be updating the Commodity Exchange Act to reflect the new realities found in today's markets.

The second key benefit of these proposals is that they get to the heart of the problem. A wall of speculative money flowed into the commodities futures markets because there were effectively no hard and fast speculative position limits to stop it, causing commodities futures prices to skyrocket. By re-establishing speculative reasonable and rigid position limits, much of the speculative money that was able to flow in must, by necessity, flow out. That will result in commodities prices coming down to levels that accurately reflect true supply and demand in the physical commodity markets.

Ten years ago the commodities futures markets were functioning properly and no one was complaining about a lack of liquidity. Rolling back the clock on Index Speculation and forcing Index Speculators out of these markets will simply return things to the way they were ten years ago.

Empty Threats of Offshore Migration

Many of the groups that are profiting from the practices addressed by this legislation threaten that if Congress takes action then futures trading in U.S. commodities will simply move offshore. This is an empty threat.

[79] U.S. Code, Title 7, Chapter 1, Section 6a, http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=browse_usc&docid=Cite:+7USC6a

Any futures contract that calls for physical delivery inside the United States is automatically subject to CFTC regulation.[80] Any futures contract that cash settles against a U.S. contract with physical delivery provisions is also automatically subject to CFTC regulation unless specifically exempted.[81] If not exempted, then no person inside the United States may lawfully trade that contract.[82]

So for instance, 60% of the volume of the cash-settled WTI crude oil contract on the Intercontinental Exchange (ICE) is traded by U.S. entities.[83] If the CFTC had not exempted the ICE from regulation then those U.S. entities would not be able to trade that contract. The ICE WTI contract would have never gotten off the ground if the CFTC had not exempted it from regulation.

In order for any futures contract to be successful it must reach a "critical mass" of volume.[84] Market participants always prefer the contract that has the most liquidity. They also prefer a marketplace located in a country with strongly established legal and banking systems.

Since the United States is the largest consumer of energy in the world and the largest producer of food in the world, every U.S.-based physical commodity producer and consumer will favor a U.S.-regulated futures contract with physical delivery provisions inside the United States. This will be the contract that they choose as their benchmark for spot market transactions, which will encourage non-U.S. physical market participants to choose this contract as well.

These Physical Hedgers will never abandon an established and fully regulated U.S. exchange in order to trade on a non-U.S.-regulated foreign exchange. They face no speculative position limits as bona fide Physical Hedgers, so they will prefer an exchange with tight speculative position limits. As a result, U.S.-regulated exchanges will have prices that most accurately reflect supply and demand fundamentals. Therefore, the volume from Physical Hedgers will grow rather than diminish.

Re-establishing speculative position limits will significantly reduce the speculative volume on commodities futures exchanges. But these limits will only affect the largest traders. The majority of small and mid-sized Speculators likely will remain well under the speculative position limits and will not be affected. If they are not bumping up against position limits, then they also would have no incentive to shift their trading to non-regulated foreign exchanges.

The only market participants with any incentive to trade elsewhere are the Speculators that are above the position limits. Since the purpose of position limits is to prevent these Speculators from trading beyond the limits, restriction of this trading would result in a net benefit to the commodities futures markets due to the elimination of excessive speculation.

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[80] Section 4.05[2] "Derivatives Regulation," Philip McBride Johnson and Thomas Lee Hazen, Aspen Press, 2004, pages 977-980.

[81] Section 4.05[6] "Derivatives Regulation," Philip McBride Johnson and Thomas Lee Hazen, Aspen Press, 2004, pages 983-986. See also Testimony of Michael Greenberger - June 3, 2008: http://commerce.senate.gov/public/_files/IMGJune3Testimony0.pdf

[82] ibid.

[83] Conversations with House Energy Committee Staff

[84] "Financial Futures and Options," Todd E. Petzel, Quorum Books, New York, 1989, page 4.

In enacting legislaton Congress should not allow any exemptions from speculative position limits for any arbitrage traders trying to arbitrage price differentials between U.S. regulated and foreign non-regulated futures exchanges. This will effectively de-link the prices between the two exchanges and will prevent any foreign non-regulated futures exchange from trying to “piggyback” off of our futures markets.

Summary

The implementation of the solutions outlined in this report will greatly increase the confidence of market participants around the world that our futures contracts prices are an accurate reflection of true supply and demand fundamentals. In the long term this will lead to greater participation in our futures markets and therefore greater volume.

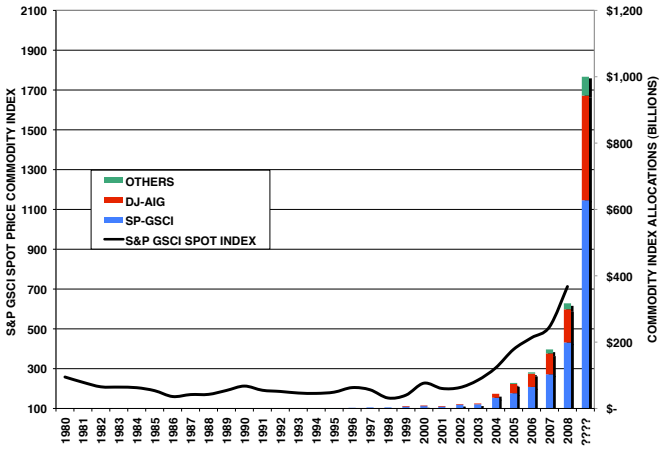
CONCLUSION

More Institutional Investors Want to Invest in Commodity Indexes

Because commodity futures prices have risen dramatically, Index Speculators have made large paper profits. This has encouraged other Institutional Investors to actively consider pouring billions more dollars into the commodities futures markets.

Pension fund consultants have been advocating portfolio allocations of between 5%[85] and 12%[86] to commodities indices. Considering that worldwide institutional assets are about $29 trillion[87], if Institutional Investors heed the advice of their consultants, index replication could easily reach $1 trillion.[88] Chart 8 asks the reader to consider what will happen to prices if institutional investment hits the $1 trillion mark?

Chart 8. S&P GSCI Spot Price Index vs. Index Speculator Assets



Source: Bloomberg, Goldman Sachs, CFTC Commitments of Traders CIT Supplement, calculations based upon CFTC COT/CIT report (see appendix). 2008 figure is as of 7/1/08.

Wall Street Is Now Promoting This Investment to Retail Investors

Wall Street Banks have seen how much money their peers are making and they want to start selling commodities index investments as well. There have been several new commodities indices launched in the last five years. Perhaps the most ominous sign is the recent spate of Exchange Traded Funds (ETFs) that have been launched to

[85] "Investing In Collateralised Commodities Futures," Russell's Research For Excellence, Yvonne Ooi and David Rae, 2005.

[86] "Strategic Asset Allocation and Commodities," Ibbotson Associates, Thomas M. Idzorek, March 27, 2006.

[87] Pension Funds $26 trillion: "UK pension fund returns at five-year low," IFAonline, Jennifer Bollen, January 28, 2008. http://www.ifaonline.co.uk/public/showPage.html?page=698204

Sovereign Wealth Funds $3 trillion: "Sovereign Wealth Funds," Council On Foreign Relations, Lee Hudson Teslik, January 18, 2008. http://www.cfr.org/publication/15251/

[88] $1 trillion on $29 trillion would represent an average allocation of just 3.5%.

appeal to retail investors.[89] This opens up a whole new source of potential profits for Wall Street if they can get retail investors to buy into the same strategies.

While Institutional Investors account for $30 trillion in worldwide assets, retail investors (including high net worth individuals) account for over $50 trillion in wealth.[90] If left unchecked, they could pour billions into commodity index strategies as well.

The Problem Will Not Solve Itself

As long as there are effectively no hard and fast speculative position limits in the commodities futures markets, speculative money will continue to flow in and prices will continue to rise. The increase in food and energy prices can continue as long as Institutional Investors continue to pour more money into these markets.

Because futures price increases directly result in spot price increases, the world is experiencing dramatic food and energy price inflation as a result of Institutional Investors' portfolio allocation decisions. The high prices caused by this artificial financial demand are holding Americans hostage because they cannot simply stop eating or driving to work.

Today's markets are clearly suffering from excessive speculation. Physical commodity producers and consumers are already beginning to abandon these markets. And the price discovery function continues to be damaged with each passing day. This problem will continue to grow until Congress takes action.

[89] "Commodity ETFs: Hot Asset Wrappers," Forbes, Joshua Lipton, April 17, 2008. http://www.forbes.com/etfs/2008/04/17/commodities-etf-etn-pf-etf_jl_0417etf_inl.html

[90] "Global High Net Worth Assets Reach $50 Trillion, But Economic Woes Trim Growth Rate to 9%," Business Wire, March 27, 2008. http://www.streetinsider.com/Press+Releases/Global+High+Net+Worth+Assets+Reach+$50+Trillion,+But+Economic+Woes+Trim+Growth+Rate+to+9%25/3492452.html

APPENDIX: HOW TO CALCULATE INDEX SPECULATORS' POSITIONS

If one knows the total dollar figure invested in an index, then it is easy to calculate how much must be in each commodity, in dollars as well as in futures contracts.

Total Dollars Invested in Index	X	Weight of Individual Commodity	=	Dollars in Individual Commodity

Total Dollars Invested in Index	X	Weight of Individual Commodity	/	Dollar Value of a Commodity Contract	=	# Of Contracts in an Individual Commodity

And therefore, if one knows how many contracts are in an individual commodity along with the dollar value of a contract and the weight of that commodity in the index, then the total dollars invested in the index can be calculated as follows:

# Of Contracts in an Individual Commodity	X	Dollar Value of A Commodity Contract	/	Weight of Individual Commodity	=	Total Dollars Invested in Index

The CFTC, starting in January 2006, has been publishing the Commodity Index Trader Supplement to the Commitments Of Traders report. This supplemental report shows the reported positions of Index Speculators in 12 different agricultural commodities. Of the 12, two commodities - KC Wheat and Feeder Cattle, are only part of the S&P GSCI and one commodity: Soybean Oil, is only part of the DJ-AIG.

Both the S&P-GSCI and DJ-AIG publish on a daily basis the individual weights of their constituent commodities. Also, futures market data providers like Bloomberg publish daily closing prices for commodities. Since futures contract terms do not change, one can use this data to calculate the daily dollar values of the individual commodity contracts.

With these three data points, it is simple to calculate the total dollars invested in the S&P-GSCI and the DJ-AIG on a weekly basis. Once the total dollars invested in these two indices is known, then one can calculate the number of contracts held by Index Speculators in the other 13 non-agricultural commodities.

A detailed example of this 3-step process follows.

Step One - Estimate Total Amount Invested in S&P-GSCI and DJ-AIG

According to the CFTC's January 17, 2006 CIT report, Index Speculators had positions in KC Wheat, Feeder Cattle and Soybean Oil of 21,366, 5,613 and 59,264 contracts respectively. Plugging in the weights and contract values from the appropriate sources yields the following calculations:

21,366	X	$18,762.50	/	0.82%	=	$48,887,753,049
5,613	X	$56,137.50	/	0.68%	=	$46,338,204,044
59,264	X	$12,732.00	/	2.77%	=	$27,240,045,054

The resulting calculations show that the S&P-GSCI had somewhere between $46 and $49 billion invested in it and the DJ-AIG had around $27 billion invested in it. This corresponds well to the figures published by Goldman Sachs and Dow Jones.

Step Two - Calculate Position Sizes for Other Commodities

Using $47.6 billion as an estimate for the S&P-GSCI, and $27.2 billion for the DJ-AIG, it is possible to calculate (using the formulas above) Index Speculators positions' in all the other commodities. The table below shows the results.

Calculation of Index Speculators' Positions (January 17, 2006)

	Percentage Weights		Positions (millions)		Contract Value	Positions (contracts)		Combined Position	CFTC Actual
	S&P-GSCI	DJ-AIG	S&P-GSCI	DJ-AIG		S&P-GSCI	DJ-AIG		
Cocoa	0.20%	0.00%	$95.50	$0.00	$15,710	6,081	0	6,081	9,390
Coffee	0.80%	2.90%	$373.20	$799.00	$46,425	8,039	17,201	25,240	28,777
Corn	2.00%	5.90%	$954.00	$1,600.00	$10,438	91,398	153,292	244,689	305,264
Cotton	0.90%	3.20%	$444.90	$862.00	$27,995	15,891	30,777	46,668	53,741
Soybean Oil	0.00%	2.80%	$0.00	$753.00	$12,732	0	59,173	59,173	59,264
Soybeans	1.40%	7.80%	$672.50	$2,116.00	$28,563	23,543	74,073	97,617	103,304
Sugar	1.90%	3.00%	$884.90	$808.00	$17,438	50,742	46,352	97,094	124,487
Wheat	2.10%	4.80%	$1,009.10	$1,300.00	$16,438	61,393	79,082	140,475	181,986
Wheat KC	0.80%	0.00%	$396.00	$0.00	$18,763	21,106	0	21,106	21,366
Feed Cattle	0.70%	0.00%	$329.50	$0.00	$56,138	5,869	0	5,869	5,613
Lean Hogs	1.40%	4.40%	$663.80	$1,185.00	$23,790	27,902	49,824	77,726	69,591
Live Cattle	2.70%	6.10%	$1,293.20	$1,660.00	$38,620	33,486	42,982	76,468	71,834
Brent Crude Oil	14.50%	0.00%	$6,901.30	$0.00	$64,900	106,337	0	106,337	
WTI Crude Oil	31.30%	12.80%	$14,888.00	$3,482.00	$66,310	224,521	52,516	277,036	
Gasoil	3.10%	0.00%	$1,472.70	$0.00	$54,725	26,911	0	26,911	
Heating Oil	8.00%	3.80%	$3,823.70	$1,048.00	$75,243	50,818	13,924	64,742	
Gasoline	7.90%	4.10%	$3,780.50	$1,105.00	$76,579	49,368	14,424	63,792	
Natural Gas	10.60%	12.30%	$5,030.80	$3,355.00	$91,680	54,873	36,591	91,464	
Aluminum	3.10%	6.90%	$1,464.40	$1,866.00	$59,475	24,621	31,383	56,004	
Lead	0.30%	0.00%	$156.40	$0.00	$31,800	4,918	0	4,918	
Nickel	0.70%	2.70%	$312.80	$724.00	$88,182	3,547	8,214	11,762	
Zinc	0.70%	2.70%	$355.60	$736.00	$51,900	6,852	14,184	21,036	
Copper (LME)	2.80%	0.00%	$1,335.10	$0.00	$116,575	11,453	0	11,453	
Copper (CMX)	0.00%	5.90%	$0.00	$1,602.00	$54,225	0	29,542	29,542	
Gold	1.80%	6.20%	$875.90	$1,694.00	$55,430	15,802	30,568	46,370	
Silver	0.20%	2.00%	$99.20	$545.00	$45,100	2,201	12,080	14,280	
TOTAL	100%	100%	$47,613.00	$27,240.00					

Source: Goldman Sachs, Dow Jones, Bloomberg, CFTC Commitments of Traders Report, CIT supplement and calculations

Step Three - Compare with Actual CFTC Figures for Accuracy
The final column in the table shows the actual figures released by the CFTC. In almost all cases the estimates generated using this method yield results that are less than the actual reported results. This shows that this method yields conservative estimates.

Final Note

This method of calculating Index Speculators' positions is almost identical to the methods used by Philip Verleger (www.pkverlegerllc.com), Steve Briese (www.commitmentsoftraders.org) and others. It is not clear who deserves the credit for developing this method but it clearly is not us.