RISK MANAGEMENT MATTERS

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COMMODITY RISKS

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FROM THE EDITOR

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Please let me know what you think! I would appreciate your comments and ideas.

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"Risk Management Matters" is in the process of re-designing the journal to offer you more content in a simple, elegant format and a brand new look. We appreciate your patience..

INSIDE THIS ISSUE

LETTERS TO THE EDITOR

RISK GROUP APPRECIATES YOUR FEEDBACK

I received the .pdf. and was working my way through it. You are making a commendable effort, and I salute you for your courage in tackling a project of this scale. I am not a natural born critic, so please take my observations in the most supportive way you can. Right now, my view is that your signal is good, but the noise is worse. It looks like you have the basis for something interesting, but I fear it is quite difficult to read. There are more columns than necessary, (up to nine per page!) . This forces the eye to work triple time to keep up and cut through the chop. It is difficult to see paragraphs and follow the topical thoughts while performing the required optical gymnastics. These issues, along with multiple syntax errors, are barriers to what you are trying to say. Reading it made me feel like I was running a marathon but only allowed to breathe through a tiny straw. A sense of claustrophobic constipation constricts what could be the free and happy flow of the information you present. In other words, the info is great, why not make it easier to ingest? **Chuck Hackett**

I found your issue on energy risks thought provoking. **Dr. Anand**

You issue about energy risks is great. **Umar Mirza**

I found the Risk Journal a monument, and a lot of work and finessing went into it from your end - very impressive! I can appreciate it would be very time consuming to get the formats and fonts to appear just right! It is difficult to read 70+ pages as PDF on screen, so I will end up printing a hardcopy first. **Dr. Manish Mehta**

The issue on Biotechnology Risks looks very good **Dr. Bob Peterson**

Congratulation to a wonderful inspiring issue! **Dr. Horst Doelle**

The German agency I am working for is currently producing a study that I would give the working title: "public perceptions of Nanotechnology in Germany" As part of my wider research on the topic I came across your newsletter, which in my view provides great insight into the key issues around the subject. We are very interested in using some of the ideas expressed in the newsletter during the presentation of our study in Hamburg and Berlin next month. In order to do so we would have to translate the relevant sections into German……..**Lorenz Heimerl**

Interesting and timely idea!! **Raj Parekh**

Your article on globalization was spot-on, and gave me a number of new ideas. **Celeste Null**

I think the publication is very helpful for students learning about risk management and issues that surround it. Most college students are not aware of the impact it will serve since 9/11 and then on. **Donna Phonevilay**

This is a well-organized publication and I like the format and contents. **Dr. Madhavan**

I recently downloaded your Risk Management Matters, Volume 2, Issue 4 quarterly and found the articles on risks facing the biotechnology industry very interesting. **Al Doig**

Send your thoughts and feedback to editor@riskgroupllc.com . Letters may be edited for length or clarity.

FROM THE EDITORS DESK

COMMODITY INDUSTRY: NEED FOR A GLOBAL RISK COUNCIL MORE THAN EVER!

Twenty first century has brought with it not only a period of unusually intense economic turmoil and uncertainty; but also exciting possibility of unification of industries, nations, regions, and the world. The coming years are expected to bring dramatic and unprecedented changes to each and every industry and "Commodity Industry" will be no exception!

Commodity Industry in its simplest terms is a "buy-sell" market! This "Buy-Sell" market is probably the oldest market and deals with simple "buy and sell"! However this "buy and sell" is the backbone of growth, economy and advancement for any nation and its businesses. This simple "buy and sell" is an industry in itself that has a potential to change position of countries, regions and societies...

21st century has brought global opportunities as well as challenges for every nation and its industries. Exploring these opportunities and taking advantage from them cannot be an easy task for any nation or its industries. This is especially true when every nation is at a different maturity with respect to its basic infrastructure, information, communications and industrialization stage.

It is very critical for every nation to understand what they need to do to cope up with the changing landscape of technologies, industries and nations. This is a time where nations need to be efficient in its ability to manage information, be connected to the global information infrastructure and have the basic infrastructure so as to be able to take benefits of these integrating and merging markets globally.

This is especially true for any nation that produces commodities and is interested in exporting or importing them! For such nations, it is absolutely critical and essential that they have access to information about the global commodities market.

Today the global economy is becoming more and more dependent on global networks that rely heavily on information and communication technology. Nations that do not have access to good telecommunications and information infrastructure will not be able to have access to the very basic required communication tools. Such nations and its consumers and businesses will be at a significant disadvantage in the global economy.

In addition, nations must also be able to secure proper transportation and have parallel mature industries within their nations to support this complex and volatile industry and market. This becomes extremely critical when this industry is closely related and integrated with energy and transport industries. This triangular integration impacts many other industries and markets nationally as well as globally irrespective of geographical locations.

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FROM THE EDITORS DESK

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This has brought a time of tremendous opportunity for every nation and its industries. Every nation, its governments and industry stakeholders need to work in the direction of an export and import levy. Surprisingly, this is turning out to be a challenge for many nations! Why?

Every nation and its government need to answer some basic questions:

1. How can they position their nation with respect to the global information infrastructure?
2. How can they create a mechanism that permits them access to global markets?
3. How can they allow flexibility and promote innovation within their industries?
4. How can they make appropriate regulations for this volatile industry? How can they decide if there are too much regulations or too little or if they need to change/develop the regulations? How are they going to assess and understand its impact?
5. How would global stakeholders unite to draft harmonious international regulations?
6. How can the most important policy objectives to foster the development of the nations industries be drafted?
7. Who can have the right oversight of the industry? Who is expected to address the industry risks? Industry leaders? Government Officials? Others? What will be the Governments role in the globalizing industries and markets?
8. Which nations will be the key players for the commodity industry? What can be the strategy to recognize and cope with new competitors in a global market?
9. What is the state of the Commodity Industry from their nation's perspective? How does it impact the other industries within the nation?
10. What forms of collaboration across nations/industries/disciplines/businesses are likely to be required, recommended and implemented?
11. How rapidly the commodity industry will displace the traditional markets? How will it impact the foreign values?
12. How can they create or access proper tools and appropriate cash and the credit lines to access the global market?
13. How will any nation address the commodity risk variables
    - Price risks
    - Weather risks
    - Insurance Risks
    - Shipping Risks
    - Communication Risks
    - Globalization Risks

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- Market Risks
- Trade Policy Risks
- Trade facilitation Risks
- Competition Policy Risks
- Investment Risks
- Regulatory Risks
- Price Variability and Volatility Risks
- Legal Risks
- Safety Risks
- Information Technology Risks
- Political Risks
- Labor Risks
- Production Risks
- World Export Quotas Risks
- Pests and Disease Risks
- Government Control Risks and many more

It is extremely important for the global community to be aware of the risks, and address all the different risk variables faced by all the industry stakeholders: be it producers, consumers, government, policy makers, regulators, legal community, traders, insurance industry, statisticians, bankers, risk managers, ship-owners, unions, shippers, shipbuilders, insurers, other service providers, international and national regulators and more.

Absence to such efforts will be damaging to this vital global industry. Coordination and commitment is essential and required from the global bodies to make the commodity industry and the free market work and deliver real benefits. A Global initiative is a critical market need and needs to be initiated /addressed to find innovative methods for managing commodity risks globally.

There is a great need for "Global Risk Council" whose mission, goal and objective should be to advance professional collaboration and pro-active approach among the industries, scientific and engineering communities, regulatory and governmental organizations and risk managers to establish preparatory measures on the critical issues and risks, while fostering public awareness, understanding and interest in existing and emerging global risks and issues.

As this industry continues through dramatic changes and re-shapes to the time, it is important for government, industry, relevant businesses, associated organizations, research institutes and managers to understand all possible

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industry risk variables and industry's future direction, particularly in terms of the current industry risks and the impact, the industry will have, from globalizing world.

Innovation is the backbone for the advancement of any market, industry and nation! New innovative products and new innovative ways to trade existing commodities are the market need for this volatile industry.

This Industry needs to be ready for the future, especially since it plays major role in shaping the 21st century. The time is now for this industry to explore new ways to manage commodity challenges. Nations that lack right policies, regulations, processes, tools and maturity in this age of information, communication and globalization are facing more challenges within any industry and market.

The changes and challenges that the commodity industry in this globalizing age seems certain to bring about are both massive and complex in the coming years. Today more than ever before, the Commodity Industry needs an ability to obtain decisive answers in a timely manner that will help manage the complex challenges of this industry and bring success to this critical industry.

Transparency, cooperation and proactive approach are the need of the time. Risk management needs to be acknowledged in its true sense. It is an extremely important tool and process to help protect industries, economy and the human welfare. Structured risk management efforts will help pierce the fog of industry uncertainty, help us identify the full range of possible outcomes and solutions, the impact of each of the solution on commodity value creation, what we know, don't know, and what we need to know to bring stability and progress to this critical industry.

Globalization's promise is here today, and is expected to march forward and have widespread effects across the globe. Nations and its governments need to, not only demonstrate, a clear sense of leadership, but also to adapt to the emerging technologies and industries as well as changing global business fundamentals and work "united" towards managing the growing complexity of a very critical industry. The potential prize can be enormous, but only if they get the fundamental framework right.

The emphasis of this special issue on "Commodity Industry" is to understand the risks, issues, obstacles and challenges facing this industry and the global community in this fast-changing, turbulent world. I hope you find this issue of interest to you. Please let me know what you think at editor@riskgroupllc.com ! I would appreciate your comments and ideas.

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FROM THE EDITORS DESK

COMMODITY INDUSTRY: NEED FOR A GLOBAL RISK COUNCIL MORE THAN EVER! ..CONTD

EDITOR-IN-CHIEF

Dr. Jayshree Pandya is the **Founder and CEO** of Risk Group LLC, a United States based Risk Management Research, Advisory, Training and Consulting firm.

Dr. Pandya is quoted in several trade journals and books, and has authored numerous (Scientific and Management) articles published in International Journals. She actively provides speaking engagements and is an invited speaker at many global conferences.

As a Risk Management Professional, Dr. Pandya consults industry, government officials and agencies, policymakers, educators, non-government organizations, as well as corporations in understanding and managing the risks and issues related to their specific efforts.

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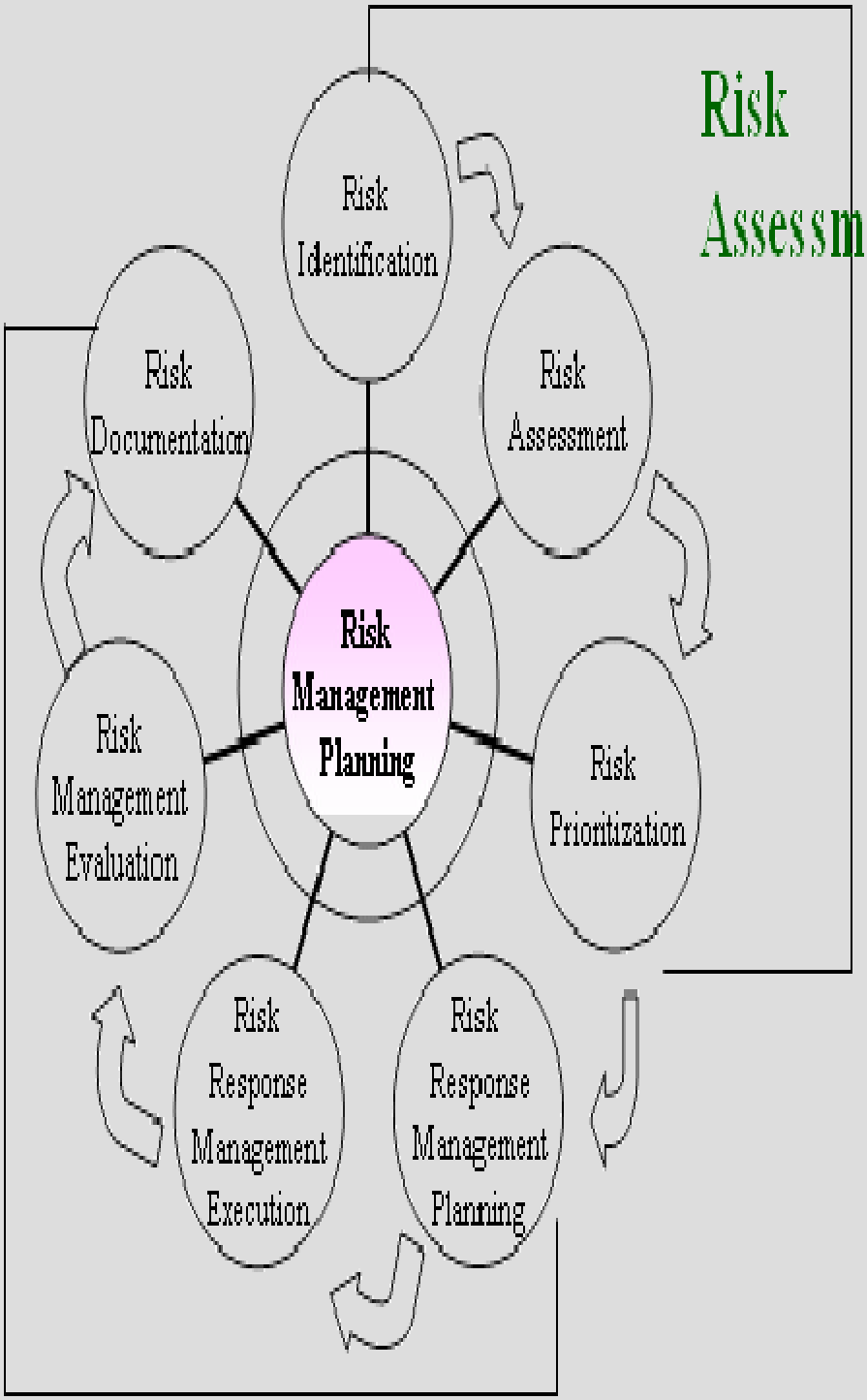
Risk Management Life Cycle



THE FUTURES INDUSTRY: FROM COMMODITIES TO THE OVER-THE-COUNTER DERIVATIVES MARKETS

Origin, Purpose, Development, Controversy, and Regulation of the Most Volatile Financial Contracts in the World.

by Kurtis J. Ward, Esq.

The Futures markets are often overshadowed by the highly prolific and actively traded securities markets. The popular financial television programs spend most of their airtime reporting on the ever-changing share prices of equities, earnings reports, analyst upgrades and downgrades, IPO's, governmental economic reports, federal reserve comments, interviews with CEO's, as well as the latest company press releases. In contrast, only a few token moments are devoted to the Futures with just a handful of prices quickly flashed across the television screen as the program fades away for commercial break.

This lack of television coverage may seem to indicate that Futures are somewhat insignificant as compared to the securities markets. However, such a caricature borders on economic heresy as Futures are no longer confined to traditional commodity markets from which they evolved. Historically, Futures were called "Commodities" or "Commodity Futures". However, explosive growth during the last two decades has occurred with Futures contracts expanding into many new frontiers such as "energy" (crude oil, unleaded gas, heating oil, natural gas, and electricity), "currencies" (British Pound, Japanese Yen, Swiss Franc, Euro Currency, and U.S. Dollar Index), "interest rates" (Eurodollar, T-Bonds, T-Notes), and "stock indexes" (S&P 500, Nasdaq, Dow Jones). Today, the term "Commodities" (although still in use) is slowly being replaced in favor of the more general and all-inclusive term, *Futures*.

Entities concerned about fluctuations in these markets transcend the typical grain and livestock producers of past decades. Today, oil and gas producers, mutual fund companies, hedge funds, domestic and multinational corporations, publicly traded companies, utilities, municipalities, states, foreign countries, insurance companies, banks, and other institutions realize their financial stability is not guaranteed should they fail to properly manage their price risk exposure. Futures and Options are the essential tools that market participants use in order to reduce price risks and insure the predictability of profits as they strive for long term financial viability.

The Futures Markets regulatory framework was initially designed to guarantee that all transactions would be traded on regulated exchanges through regulated intermediaries subject to a margin requirement system. Under §4(a) of the Commodity Exchange Act (CEA), most o*ff-exchange* traded futures contracts were prohibited. However, in 1992, the CEA was amended to allow the Commodity Futures Trading Commission (CFTC) the ability to exempt certain futures contracts meeting the requirements as provided in §4(c) in the CEA.

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During the last two decades, Futures have evolved into other financial products called "Derivatives" which trade *off-exchange* on the Over-the-Counter (OTC) Market in contrast to the typical Futures contracts. During the 1990's, the OTC Derivatives mushroomed into a market that was three times larger than *exchange traded* contracts. Subsequently, entities trading in Derivatives suffered millions of dollars in losses due to alleged fraud, lack of expertise, poor internal supervision, improper leverage, while others blatantly failed to appreciate the underpinnings of Derivatives and the colossal risks associated with these financial instruments. Despite the controversy surrounding Derivatives, courts held these instruments were not securities, therefore, could not be regulated as such. To solidify their existence even further, Congress amended the Securities Act of 1933 in the Graham-Leach-Bliley Act to exclude non-security based swaps (swaps are the most common type of Derivative contract) from the definition of a security. Finally, Congress went even further to resolve any question as to the legitimacy of Derivatives when it enacted the Commodity Futures Modernization Act of 2000 (CFMA) which provided for legal certainty for these off-exchange traded contracts, prevented the SEC from regulating security-based swaps, and settled the issue as to who would regulate this largest sector of the Futures industry.

The purpose of this paper is to (1) trace the beginnings of commodities and the origins of the Futures & Options markets, (2) explain the foundational function of *Hedging* and the market participants engaged in this risk management activity, (3) elucidate the historical oversight of the *exchange traded* Futures Markets, as well as its overseer, the Commodity Futures Trading Commission, (4) highlight the strategies that risk managers use to transfer price exposure onto the Futures & Options markets, and (5) summarize the recent proliferation of *off-exchange* traded Swaps, Hybrids, and other financial futures contracts known as *Derivatives* as well as the political battle to keep these highly leveraged and powerful instruments virtually unregulated.

I. ORIGINS OF COMMODITIES, FUTURES, & OPTIONS MARKETS

From the foundations of the world, the importance of basic commodities to man's survival is self-evident. However, since Futures markets have their origins in the underlying cash commodities markets, a brief view of commodity history is essential to our query. Commodities have always been a medium of exchange and a store of value since the beginning of time. Of course, commodities were the original currency before coin or paper currency came into existence. In fact, some of the oldest references to commodities are found in the Bible. Gold is the first commodity specifically mentioned in Genesis, the first book of the Bible. A few chapters later, the Bible records that Abram was rich in Cattle, Silver, and Gold. A few hundred years later, Joseph was appointed by Pharaoh as the government's chief commodity trading advisor of Egypt for the task of storing up (buying) wheat for a seven year period. At the end of the seven-year-government-enforced-storing-up-program, wheat was later sold (exchanged) for money, livestock, and land during the next seven years of famine which ultimately led to

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Egypt becoming the wealthiest nation in the region. Interestingly, these four commodities mentioned in Genesis (Gold, Silver, Cattle, and Wheat) are now all actively traded Futures contracts. Furthermore, petroleum based products were available (from oil seeps) and used during the biblical era. Likewise, petroleum products have thriving Futures contracts today trading in Crude Oil, Heating Oil, and Unleaded Gas.

After Egypt lost its prominence, along came the Phoenician, Babylonian, Persian, Greek, Roman, and Byzantine empires which gained notoriety as sources of economic power during consecutive periods of world history. The Greek and Roman markets originated some today's modern trading characteristics such as fixed trading times, trading places, and cash contracts for future delivery. After the fall of the Roman Empire, the feudal system that arose dampened the growth in the exchange of goods across Europe. Since feudal manors strived for self-sufficiency, they were not active merchant traders.

By the 12th Century, the northern cities of Italy, Venice, Florence, Genoa, Pisa, and Milan all sought to expand trade with the Orient and other regions of Europe. During this same era, northern Europe's trading epicenter was located in a region called Flanders which is now modern Holland and Belgium. In the year of 1114, the Counts of Champagne organized "trade fairs" to encourage trading activity and they collected fees for organizing these events. These market fairs became very popular across Europe and traders even came as far as Russia to attend. Later, these trade fairs were held on an annual basis and often rotated to other cities that specialized in one or two commodities. The trade fairs ended with merchants settling up their agreements made during the fair and fulfilling other previously made obligations. However, (as in any marketplace where participants enter into contracts with one another) trading disputes often arose between the traders. Therefore, a code of commercial law slowly developed and became known as *"law merchant"*. Traders who violated this code could be taken before "courts of fair" in which other merchants would hear the dispute and decide the case accordingly. As early as 1154, a law of Milan established *consuls mercatorum* (consuls of merchants) where a group of merchant men settled disputes between the Italian traders without outside legal action. The courts of fair over the next few centuries became known as "exchanges" and in 1570, the Royal Exchange opened in London.

As advanced as the commodity markets became in London, the first organized Futures trading in a commodity actually occurred in Japan during the 1600's. In Japan, Futures contracts in rice (called "rice tickets") were first traded between wealthy landowners and the feudal lords. Interestingly, many of the basic rules governing the Futures trading in rice were the same as the rules governing Futures trading in the United States today. However, one difference was that the "delivery" of cash rice was not permitted in conjunction with the Futures contract. In 1869, this "no delivery feature" aspect of the Futures contract caused such erratic price discrepancies between the cash price of rice and the Futures contract in rice that the Imperial Government of Japan halted trading in rice Futures.

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Grudgingly, two years later, the Imperial Government reopened trading in rice Futures but allowed physical delivery of cash rice to occur at the expiration of the Futures contract which eliminated the market instability of prior years.

In the United States, as New York City was developing into the financial capital for the securities markets, Chicago was simultaneously becoming the preeminent city for the commodities markets. When the Erie Canal opened in 1825, people from New York, Pennsylvania and other cities flooded into the fertile farmlands of northern Illinois and southern Wisconsin. A distinguishing characteristic of this unsettled rural area along the banks of Lake Michigan were the numerous wild garlic plants of the plains. Thus this place was christened as *Chicagou*, "the wild garlic place". In 1838, the first grain elevator was built in Chicago for the purpose of storing wheat which was increasing in trade throughout the area. During these early days, wheat and flour were the main exports but trade was also developing in beef, pork, and wool.

As the grain trade blossomed over the next decade, eighty-three men came together in 1848, with the purpose of forming an institution that would aid in the city of Chicago's development while also improving the infrastructure (canal, harbor, railroads, storage facilities, roads, etc.) to sustain the ever-growing commodities trade. The Board of Trade of the City of Chicago was formed and it adopted both a constitution and by-laws in that same year. The "founding fathers" of the newly formed Board of Trade were merchants and businessmen who sought to eliminate their dependence on eastern capital and establish a banking system that would be inter-connected to their organization. Hence, the Board of Trade became the dominant middlemen between wheat farmers and livestock producers of the plain states and the ultimate consumers of these products who were located on the eastern coasts of the United States and across the Atlantic Ocean in Europe.

Immediately after its formation, the Board of Trade helped draft legislative banking bills as well as other state legislation that allowed their incorporation in the state of Illinois. Another feature of this legislation was a provision that gave the merchants of the Board of Trade jurisdiction over their own affairs in a "self-regulatory manner" which was previously contrary to state law. It appears that the founders of the Board of Trade were very familiar with *lex mercatoria*, or the *"law merchant",* which was the legal tradition that existed among Mediterranean merchants of the Middle Ages, under the feudal system of England, and during the Renaissance of Europe. This private system of mercantile law came into existence for the purpose of facilitating commerce and trade. At the heart of this *"law merchant"* were the validity of bills of exchange and the proposition that informal agreements could be legally binding. Another important tradition was that rulings were to be made by other merchants familiar with the mercantile customs and *not by judges and courts*. The Guilds of the Renaissance became the model for boards of trade and chambers of commerce that would later develop in the English Colonies.

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After the Revolutionary War, some state governments made provisions for retaining and continuing the operations of these commercial-like institutions.

By 1854, Chicago had replaced New Orleans as the largest exporter of commodities to the East Coast. A few years later in 1859, the Board of Trade of the City of Chicago received a new charter from the Illinois legislature that remains mostly in effect to this day. This new charter gave strong regulatory powers to the Board of Trade which would permanently secure its survival. It had three new empowerments that went much further than the original act of incorporation. Under the new charter, the Board of Trade could (1) establish rules for their grain business "as they may think proper", (2) the Board of Trade itself would settle all disputes and any arbitration award contained the same authority as "if it were a judgment rendered in the Circuit Court" and (3) the Board of Trade exclusively had the power to appoint grain inspectors and the right to develop the standards of weights and measures of the contracts that would be traded.

Shortly thereafter, "grain receipts" (just like the commodity itself) would be traded among the merchants because it was much easier to transfer possession of the receipts instead of moving thousands of bushels of wheat after each trade. These paper receipts would become a kind of legal tender which was "an embodiment of ownership, formalized business obligations and duties, as valuable as any commodity itself". Because of the standardization and enforced grading system, counterparties began to trade contracts on the basis of quotations *without actually receiving or delivering the product*. Although today they are known as "futures contracts", in the 1850's they were called "*to-arrive contracts*". These "to- arrive" contracts were strikingly similar to the medieval *"letter de faire*".

As futures trading became more prevalent, many participants noticed how the huge erratic price swings from the peaks of planting season to the extreme lows of harvest seemed to be smoothed out. In other words, active futures trading had reduced volatility between planting and harvest seasons as more speculators took the opposite side of positions from the hedgers. Some attributed this phenomenon to a much greater number of participants in the market (commercials, farmers, hedgers, and speculators) than what there had been in the past (others still debate this claim today). More importantly, now lenders were encouraged to make more capital available for increasing grain production because it was now possible to shift some of the price risk away from the producer and onto the futures market. Thus the concept of "hedging" was born where traders entered into "hedges" out of a desire to avoid risk, not assume it.

Another type of time contract that soon developed was called "Privileges" which are recognized today as *Options (or Puts and Calls).* However, these *Privileges (Option contracts)* were very controversial. Therefore, when federal regulators threatened to abolish futures trading altogether in 1865, trading in privileges was banned (for over 100 years) by the Board of Trade as a compromise.

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History books are replete with many advantages that the North had over the South during the Civil War. However, rarely has the Chicago Board of Trade received any acknowledgement for its contribution during the Civil War. While the Confederate soldiers barely had enough to get by and had to rely on meager amounts of maize meal and dried peanuts (goober peas) for subsistence, it is a little known fact is that the Union Armies had access to the nutritious grain products of Chicago and the meat supply of the Chicago Stockyards.

The beginning of the Civil War also brought about one of the first great speculative opportunities in futures trading. The commodity was Oats. Oats were in great demand because of the need to feed the horses of the Union Army. In 1861, the price of Oats was about 16 cents a bushel. However, just two years later, the price of Oats had risen to 72 cents per bushel, a 450% increase. Consequently, speculators begin to see the commodity futures market as a vehicle for achieving outstanding returns (for those who could afford the risk) even eclipsing those returns of the stock market.

In 1865, the Board of Trade passed its first margin rule which allowed margin funds (earnest money) to be posted if demanded by either party but not to exceed ten percent of the value of the futures contract to be bought or sold. Unlike our modern era where the exchange is the counterparty, the counterparties of that era arranged their own settlement with each other. Today, margin requirements exist as each exchange determines the amount of margin money required to be deposited for the commodities traded on its exchange. The legal term for margin requirement is “performance bond”. Most margins requirements range from 5 to 10% of the contract value but each exchange has the ability to increase or decrease margin requirements depending on market volatility, news events, or any other circumstances necessary to protect the financial integrity and stability of the exchange. The margin requirement system is what allows for immediate flow of funds to and from the trading accounts of the market participants (i.e. from the losers to the winners).

After the Civil War, the concept of the trading pit was first created to deal with multiple participants in an overcrowded room. These newly designed octagon-shaped, stair-stepped, recessed, platform allowed traders to easily see one another and thus trade could proceed in a more effective manner. These trading pits still survive today on most exchange floors.

In 1871, the Great Chicago Fire destroyed much of the city of Chicago including the Chamber of Commerce Building where the Board of Trade was located. After the fire, a committee was appointed to deal with the settlement of all outstanding trades and to collect and pay the difference on these trades. This was the first time the word “clearinghouse” had been used.

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This clearinghouse committee became the forerunner of the exchange clearing house which would be created some fifty years later which ultimately turned out to be one of the most important forces in preserving the integrity of futures trading.

As trading in futures continued to blossom into the late 1800's, the Board of Trade would have to deal with image problems as some of its members tried to occasionally "corner the market". There were other legal battles as grain transportation was taken over by the railroads. Furthermore, new technology also created problems for the Board of Trade. After the invention of the telegraph and its subsequent use for transmitting quotes prices from the exchange trading floor to the outside world, "bucketshops" soon developed. Bucketshops were establishments where people would gather to place wagers on the price quotations from the commodities and stock market trading floors. However, these bucketshops and their speculators were unlike the exchange traded brokerages and speculators of today. They served no economic purpose nor did they provide any market liquidity since the trades were matched within the bucketshop (for a fee) and *were not executed on the trading floor.* Many of the bucketshops added the word "exchange" to their company name which gave some the impression that they were affiliated with the actual exchanges. For as little as a $10 wager, one could enter into a trade without really having any understanding of the underlying market (or understanding that risk was not limited to your original investment).

As the public became more outraged with this type of gambling, it clouded the perception as to the legitimacy of the real exchanges that traded in contracts for future delivery. When the bucketshop losers and the public at large began to condemn this type of gambling, they often included the exchanges in their unfavorable rhetoric. Therefore, the exchanges petitioned the courts to have the telegraph companies terminate providing quotes to the bucketshops claiming this would end the exploitation and pirating of price quotations.

In 1889, the Illinois Supreme Court gave the Board of Trade a very unfavorable ruling by holding that the Board could not restrict the price quotations to exclude certain groups. However, the ruling would not prevent the Board of Trade from discontinuing all price quotations completely if it so desired. Unfortunately for the Board of Trade, elimination of all price quotations (just to destroy the bucketshops) would also severely cripple the trading activity of its own members who had grown accustomed to receiving the market price quotes via the telegraph at several locations all across the country. In addition, the exchange's own members began having economic relations with the bucketshops that made it even more difficult to force them out of business. Many years later, states would pass their own laws that would limit or prohibit the activities of the bucketshops.

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However, the telegraph and its "ticker" proved to be such a valuable technological innovation that the exchanges could not do without it despite the new problems that technology created.

Other Exchanges soon came into existence so the Board of Trade was no longer the only game in town. The Chicago Butter & Egg Board was founded in 1898 and was the forerunner to the Chicago Mercantile Exchange (CME) of 1919. In December of 2002, the CME became the first exchange to become a publicly traded company. Also, a group of dairymen formed the Butter and Cheese Exchange in 1872 which still survives today as the New York Mercantile Exchange (NYMEX) where the Energy Products and Metals are traded.

During the 1970's, the Chicago Board of Trade (CBOT) began to lose trading volume as the Chicago Mercantile Exchange (CME) had just introduced new futures contracts on Pork Bellies, Live Hogs, and Live Cattle. This move into perishable commodities was a bold move for the CME. However, many industry watchers were completely bewildered when the CME under the leadership of Leo Melamed (with the influence of Dr. Milton Friedman) would introduce currency futures to the world.

Before currency futures appeared on the scene, Dr. Milton Friedman, tried to sell short the British Pound in 1967. However, the Chicago banks refused insisting they only dealt with institutions and not individuals. At that time, Dr. Friedman was an economic professor at the University of Chicago. He believed that the Bretton Woods system of fixed exchange rates would soon come to an end and that the British Pound would be devalued. In 1945, the Bretton Woods currency exchange rate system was organized to establish rates between the world currencies where everything was fixed off of the dollar. Friedman believed that fixed exchange rates could no longer exist in a globalized world where information was flowing at a much faster pace than ever before. Furthermore, he believed that the marketplace would take the lead in price discovery as opposed to some finance minister or central bank.

During this time, Leo Melamed (who would later become chairman of the CME) approached Dr. Friedman with his idea of currency futures. With tears in his eyes, Dr. Friedman told him, "It is a wonderful idea and it is exactly what we need". Melamed asked Dr. Friedman if he would put this concept in writing so that he would have something which showed Milton Friedman supported the idea of currency futures. In recalling the conversation during an interview, Melamed reported that Dr. Friedman told him to "remember that he (Friedman) was first a capitalist". Melamed then ask Dr. Friedman, "How much"? Dr. Friedman replied, "$5,000." Melamed responded, "Done". So for $5,000 the Chicago Mercantile Exchange received a feasibility study on why the world could use a currency futures market to trade currencies.

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A few years later, Dr. Milton Friedman would receive the 1976 Nobel Prize for economic science, albeit not for currency futures but for his work on the importance of the quantity of money as an instrument of government policy and as a determinant of business cycles and inflation.

In hindsight, Currency Futures seemed exactly what the markets needed as the Gold Standard was eliminated in 1971. Prior to that, the dollar had been convertible into Gold. Elimination of the Gold Standard would mean that the value of the dollar would be allowed to float against other foreign currencies. While the CME geared up for Currency Futures, the CBOT was on its way to developing Interest Rate Futures contracts. In 1975, the CBOT became the first exchange to launch a futures contract where financial institutions could hedge interest rate risk. The first interest rate contract was a mortgage futures contract called the "Ginny Mae" and because of it (for the first time in history) the seat price on the Chicago Board of Trade would exceed the price of a seat on the New York Stock Exchange. Thereafter, the Treasury Bonds (which appeared on the scene in 1977) would become the CBOT's most successful futures contract. In 1981, the CME would introduce T-Bill and Eurodollar Futures contracts (not to be confused with the Euro Currency that was introduced in 1998). The Eurodollar is a short-term (90-day) Interest Rate Futures contract which is tied to the rate that banks pay for U.S. deposits in overseas banks. Since Eurodollars were U.S. dollars in overseas banks, they had a little more premium and much more volatility than Treasury Bill Futures. Eventually Eurodollars would become the most heavily traded futures contract ever.

In 1982, the CFTC slowly began to allow "options" to trade under a pilot program which ultimately led to the acceptance of options trading on almost every commodity. Commodity Options are very similar to stock options in that there are "put" and "calls" at different strike price levels on a variety of contract months. A "put" option gives the option buyer the right, but not the obligation, to have a *short* futures position at a certain strike price. Therefore, a purchaser of a "put" option makes money when the underlying market declines especially when the market drops below the strike price. In contrast, a "call" option gives the option buyer the right, but not the obligation, to own a *long* futures position at a certain strike price. Therefore, a purchaser of a "call" option makes money from a rise in the underlying market, especially when the market rises above the strike price.

What makes options trading very popular is because in both put and call scenarios (where the option is initially purchased), the maximum risk of loss is limited to the cost of the option, commission, and fees. However, profit potential is "unlimited" at the level of the strike price. When options are purchased, this purchase price is called "the premium". There are bid/ask spread on options very similar to stock and futures quotes in which market participants (by their trading) determine what the premium will be. Factors such as the strike price level as compared to the underlying contract, time to expiration, market volatility, and market expectations are constantly

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analyzed by market participants and those variables affect option pricing. However, since there are multiple strike prices on puts and calls ranging over many contract months, options typically do not have the liquidity that is prevalent in the underlying futures contract.

In 1982, the Kansas City Board of Trade (KCBT) developed the world's first stock index Futures contract which was on the Value Line Index. However, the CME came out with the S&P 500 Futures contract a few weeks later which became the model for all Stock Index Futures contracts. This was the first time traders could use a Futures contract to hedge their stock portfolios or to leverage money into the stock market without having to buy the individual stocks. Another milestone in equity indexes came in 1997 when the CBOT began trading a Futures contract on the most famous stock index in the world, the Dow Jones Industrial Average. In addition, the exchanges developed "mini-sized" contracts (both S&P and DOW) which operate off the same indexes but the S&P e-mini is 1/5 the size of its normal contract while the mini-Dow is ½ the size of its normal contract value. These mini-contracts allow smaller capitalized investors the ability to enter into these transactions. Today, stock index futures trade around the world on almost every futures exchange in the world.

Electronic trading has been slow to replace the trading pits of the futures markets, partly because futures just do not have the magnitude of trading that the stock markets enjoy. The floor trader still provides a vital role in keeping markets liquid and most likely will not be replaced anytime soon. However, in the very active contracts of the S&P 500, Dow Jones, Nasdaq, and Interest Rate Futures, electronic trading has continued to grow. However, electronic trading is extremely dangerous since some contracts are not cash settled and longs are subject to delivery after first-notice-day. Spot months in some commodities are very illiquid and carry much higher margins in the last 30 days of trading because they can be "squeezed" (where large moves occur for no reason except for fear of losses as futures contracts must be liquidated prior to expiration). The learning curve in Futures, Options, and risk management in general is much more complicated (and costly) for the novice than any other type of trading or investing. Therefore, the prudent investor or risk manager should be very cautious before "jumping into the fray". In addition, one should be wary of anyone claiming to know the future direction of a particular futures or stock. Insiders in the financial industry are well aware that more 80% of all traders (including investment professionals) will eventually be wrong in the final analysis because of several common mistakes. However, because 20% of those who win, win big, traders of all shapes and sizes are continuously attracted to these markets.

II. HEDGING: THE FOUNDATIONAL PURPOSE OF THE FUTURES MARKETS

In theory, Commodity Futures are basically "publicly traded forward contracts. Cash forward contracts still survive today in many commodities. For example, a forward contract (also called a cash contract) would occur when

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a wheat farmer enters into a pricing contract with a grain merchant or miller. Assume that a farmer had just planted his seed wheat in the fall but his wheat crop will not be ready for harvest until summer. A cash forward contract may be drawn up between the farmer and the grain merchant. Even though the wheat had just been planted and harvest was more than six months away, the contract would provide that the farmer deliver his wheat crop to the grain merchant, specifying a certain number of *bushels*, of a certain *quality*, on a certain *date*, at some specified *price*. Because this contract "locks in" a specific, agreed-to-price, the farmer foregoes any opportunity to participate in higher prices (which benefits the grain merchant) should the wheat market continue to rise into the summer harvest. If, however, the price of wheat moves lower into harvest, then the farmer would benefit from the cash contract (to the detriment of the grain merchant) since the previously negotiated price was higher. In both scenarios, the farmer brings his wheat to the grain merchant shortly after it is harvested thus "delivering" the quantity of bushels as provided for in the contract.

Basic contract law principles apply as the farmer looks to the grain merchant for performance of the contract (payment for delivering the wheat). Likewise, the grain merchant looks to the farmer to perform in accordance with the terms of the contract (delivering a certain number of bushels, of a certain quality, by a certain date). However, suppose the price of wheat doubles or even triples by harvest time. The farmer may be tempted to default (fails to deliver the wheat to the grain merchant) and just sells the wheat to someone else at the existing market price, thus breaching his contract with the grain merchant in order to get the higher price on the spot market. Now, the grain merchant will still need the wheat after harvest because most likely it will have other contracts to fulfill with flour mills to deliver wheat during that time. Therefore, the grain merchant may be forced to buy wheat on the open market at the higher price to make good on its other contracts and later sue the farmer for damages incurred due to the farmer's breach (failure of the farmer to deliver wheat at the previously agreed price).

This opportunity for breach is referred to as "counter-party risk" which is present when two parties enter into a contract. Likewise, the farmer has counterparty risk because if the price of wheat drops precipitously, then the grain merchant may be the one tempted to breach (especially if they had guessed wrong on the market direction and failed to lay off this risk by offsetting cash contracts with flour mills or other end users of wheat). Law students (in first year Contracts) learn that many breach of the contract cases occur during times of rapid price inflation and deflation in the economy. Large price moves (in either direction) catch many market participants off-guard which in turn causes extreme financial repercussions to the contracting parties. This counter-party risk (i.e. failure of one party to perform) is the most often underestimated risk component of any transaction, especially when the contract involves the price performance of a commodity or futures market.

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One of the benefits of using *exchange traded futures contracts* (rather than cash forward contracts or off-exchange Derivatives contracts) is that *the counter-party is now a U.S. Commodity Exchange* as opposed to an individual or corporation. The exchange acts as a buyer for every seller and a seller for every buyer on each transaction. This significance becomes apparent as the Chicago Mercantile Exchange (CME) declares in a recent brochure highlighting the financial safeguards of their exchange, *"In the 100-year plus history of the CME and its predecessor organizations, there has never been a failure by a clearing member to pay settlement variation to the Clearing House; there has never been a failure by a clearing member to meet a performance bond call; there has never been a failure by a clearing member to meet its delivery obligations; and most importantly, there has never been a failure of a clearing member resulting in a loss of customer funds."*

While the Futures markets originated with grain contracts in the mid-1800's, it wasn't until the 1970's when they first expanded into "perishable" commodities such as cattle and hogs. Now, livestock producers could participate in the Futures markets to lock in prices and eliminate the disadvantages of cash contracting as well. A cattleman wanting to hedge a cash position would first determine the futures contract month corresponding to the month the cattle are to be sold. For example, a cattleman who grazes stocker cattle on wheat pasture from November to March would *sell* a March Feeder Cattle Futures to lock in the price of the cattle. Since he plans to sell the cash cattle sometime in March (assuming he is satisfied with the current price of the March Feeder Futures contract), he would then call his broker and sell the March Feeder Cattle Futures. Additionally, the cattleman would need to determine how many contracts were needed and simultaneously post the equivalent margin deposit as required by the Chicago Mercantile Exchange (which is the exchange that trades Feeder Cattle). Each futures contract has a "contract size" that is very important in determining how many contracts will be needed in the transaction. Since, Feeder Cattle has a contract size of 50,000 pounds (assuming the cattleman plans to sell cattle that weigh approximately 750 pounds), then each contract would cover about 66 head (50,000 / 750 = 66.6 head per contract). The next step would be to take the total number of cattle he desired to hedge, divide that number by 66 head, and then sell an equivalent number of contracts. Regardless of the contemplated Futures contract, a hedger should always begin by looking at the contract size to determine how many contracts are needed.

Now, once the hedge has been placed through the broker and the trade executed on the trading floor, then the broker should immediately "report the fill" (execution price) to the client. Thereafter, if the futures markets rallies (which means that the futures position is incurring losses) the clearing firm will require the cattleman to post extra margin if he wants to maintain the positions. If we skip to the time that the cattleman sells his cattle in March, then he should simultaneously exit the futures position by buying it back. If the futures position generated a loss, most likely that futures market loss will be offset by his receiving a higher price in the cash market for the cattle. However, suppose the futures market dropped right after placing the hedge when he initially sold the futures and continues to drop until the time when he sells the cattle in March. Under this scenario, money would flow into the futures account and these funds would be used to offset the losses that would be sustained in the

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cash market. Surprisingly, in both of these scenarios, the net result would be roughly the same. However, emotions usually differ with each result because when the market rallies, the cattle hedger would have been better off had he not placed the hedge and therefore many first-time hedgers mistakenly interpret hedging losses as "profits given up".

Yet, in the scenario when the hedger guessed right (placing hedges before the market dropped) the hedger is very proud because, had there been no hedges, there would have been no futures profits to offset the losses sustained by the falling cash market. Again, in both scenarios the net result is virtually the same. At the conclusion of the hedge, the cattleman would still take his cattle to market when they are ready to sell and then simultaneously call his broker to offset the futures hedge. Although the cash and futures transactions mirror one another, they still are separate and distinct transactions (with separate parties) with their own respective obligations. However, frequently when a bank is financing the cattle operation, the lender may require under the loan agreement that the cattlemen hedge some percentage of the cattle. While risk management strategies are infinite with varying degrees of risk and reward, this is the foundational premise for most hedging activity regardless of the underlying commodity.

Futures Markets were also designed to allow "commercials" (large grain merchants) to fulfill their hedging needs and purposes. A commercial hedger might employ a "long hedge". This would occur when one would "buy" the futures contract to lock in the price. For example, a grain processor who needs to purchase wheat to grind into flour will need to procure cash wheat to fulfill its obligations to merchandisers or retail stores. If the grain processor begins to fear that wheat prices will rise and wants protection from higher wheat prices (which would increase input costs), the grain processor may decide to buy wheat futures and lock in some amount of their future needs. In all of these transactions, hedgers using the futures have the ability to determine what percentage they want to hedge and they also have the ability to determine how long they want to hold onto the hedge (not exceeding the end date of the contract). However, there is no requirement to hold the hedge all of the way to expiration of the futures contract. In fact, many producers engage in what is called "spec-hedging" which means they are hedging, but if the futures market goes in their favor by an acceptable amount, then they will take their profit and move back to a neutral or "un-hedged position". This is where the term "spec" is used which is short for "speculation". Now, if options are combined into the hedging strategies by using puts, calls, fences, strips, butterflies, synthetics, etc., some very complicated but yet potentially unlimited strategies (with varying degrees of risk/reward over a multitude of time horizons) can be used.

Livestock producers, grain producers, agricultural commercial firms, energy companies, and other hedgers (remember hedgers are those who own or expect to own the underlying commodity) are not the only one who use Futures. Small and large speculators, commodity funds, floor traders, hedge funds, mutual funds, professional

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money managers, banks, and other financial institutions also participate in buying and selling Futures contracts depending on their market outlooks, trading objectives, risk management plans, time horizons, and availability of risk capital.

Now, even though hedging was the initial purpose that led to Futures trading, the market does not know (nor does it care) if the underlying cash commodity is owned by either of the parties in a Futures transaction. The fact that the trader may own the underlying cash commodity is what classifies one as a "hedger". Yet, it is just as likely that on any given transaction that both buyer and seller are just speculators looking to make a profit. Without speculators actively participating in the Futures Markets (which adds volume and liquidity) there would be larger swings in price and a greater gap in the bid/ask spread. However, without the purpose of hedging (which provides the basis of any market in the first place) speculators would not have a financial opportunity to participate in this quest for price discovery.

It is beyond the scope of this paper to argue in support or against speculation, but it should be noted that speculators come in all shapes and sizes with differing goals, objectives, time frames, and availability of trading capital. Many speculators are simply small investors who engage in trading with limited investment dollars which is often referred to as "*trading with scared money*". These small traders usually end up losers but on a day-to-day basis provide additional liquidity for the market. However, speculators can also include large commodity funds (similar to mutual funds), hedge funds (hedge funds not really hedgers per se but are an unregulated type of large money managers who trade for wealthy and high risk adverse clients), or just very wealthy individuals who "like the action". The lines between hedging and speculating become blurred as many financial institutions and corporations have active trading programs in the markets that affect them. These "spec-hedgers" will actively trade in and out of a Futures market after covering short-term positions that hit certain profit objectives or when a market exceeds certain loss parameters. In addition, Options are frequently used (similar to an insurance policy) to protect against declining or rising prices or in conjunction with Futures contracts to limit risk exposure.

Another reason speculators flock to the Futures markets is because of the concept of *leverage*. Leverage is "razor thin" in the Futures markets. In the U.S. Equities markets, the Federal Reserve sets rates for margin accounts under Reg T which almost never changes. Reg T (currently at 50%) means that if an investor buys $10,000 worth of stock, a minimum of $5,000 must be posted by the investor for a margin account. Moreover, the investor must borrow the remaining 50% from the Broker/Dealer and interest is charged on that loan. However, margin rates for Futures markets are determined by the exchange on which the underlying contract trades. Depending on market volatility, the exchange has the right to raise or lower the margin requirements at anytime. Some contracts with lower volatility have margin requirements as low as 5% of the contract value while extremely volatile contracts may have margins as high as 20% of the contract value (or in the case of security futures where the mar

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gin is set at 20%). Although on average, a typical Futures contract will have a margin requirement of 5 to 10% of its contract value but the Exchange does not charge interest on the remaining balance like a Broker/Dealer does on stocks purchased on margin.

Since the ramifications of leverage are not fully understood by the investing public, it is widely accepted that trading in Futures is riskier than stocks. To the contrary, both markets are very equal to each other in terms of volatility and yearly percentage gains or losses. However, most Futures traders fail to respect the impact of leverage and how this leverage can be a "double-edge sword". Since margin requirements are much lower for Futures than with stocks, most traders will initiate too many positions because an equivalent amount of trading capital will allow up to 5 to 20 times more market exposure with futures than an equivalent stock position. This is another important reason that a Futures trader should first determine margin requirements and compare it to the contract value since this is critical to properly evaluating leverage and its impacts on potential profits and losses.

Unlike the stock market, Futures trading is a "zero-sum game". This means that for every winning Futures position there is a loser and for every losing Futures position there is a winner. In absolute terms, money is not created or destroyed through trading, it is merely *transferred.* Another distinguishing characteristic of the Futures markets is that it is very easy for a trader to initiate a short position ("sell short") when one suspects a market may decline (unlike the stock market, there is no "down-tick rule" in Futures).

Each Futures exchange itself acts as a buyer for every seller and a seller for every buyer. The exchange's clearing house not only clears all of these trades but also collects funds each and every day (through the process of the initial and maintenance margin call requirements) from the losers to pay to the winners. In Futures, these positions (and subsequent change in account balances) are "marked to the market" which means funds are credited or debited to each account on a daily basis. Therefore, existing profits that have not been realized (by an offsetting transaction) are still available in the account to withdraw or can be used to margin other positions. However, margin calls must be met immediately if losses cause the account balance to fall below the minimum margin requirements.

In most Futures markets, the trading pits (which are as old as the markets) still exist. This method of trading is called "open outcry" where floor traders use a flurry of hand signals coupled with intense screaming and yelling at one another as they execute the trades in the pit. What looks like chaos to the average person is in fact a very orderly, methodic way of trading Futures and Options. Thousands of contracts trade on a daily basis as the market reacts to a variety of factors on its never ending quest of "price discovery". Price quotations run out into future months (some commodities like interest rates extend several years into the future). For example, in Crude Oil, a Futures market exists for every contract from January through December.

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However, in the Interest Rates, Currencies, and Stock Indexes, the Futures contracts are traded in the quarterly months of March, June, September, and December. Other Futures contracts have their own specifically designated contract months that are unique because of harvest, past trading volume, or some other market reason.

In conclusion, as Futures trading developed, bankers became willing to make more capital available to farmers if they "hedged their outputs". In fact, some bankers were willing to loan up to 100% of the value of a commodity on the basis of a contract for future delivery. This is still true today except that now livestock, energy, and financial industries are able to hedge price risk allowing them more favorable terms with their lenders as well.

III. REGULATION OF THE COMMODITY FUTURES INDUSTRY

Regulation of the Futures Industry was under the domain of the states until Congress passed the Grain Futures Act of 1922 which was signed into law by President Warren Harding. The Grain Futures Act (which predates the Securities Act of 33 and the Securities Exchange Act of 34) gave the United States Department of Agriculture (USDA) the power to regulate the Futures market. Of course, the exchanges were not happy about this new federal regulatory intrusion into their self-regulated territory. A few years later, William Jardine, Secretary of Agriculture, threatened the Chicago Board of Trade (because of the allegations of market corners and manipulations of past decades) by declaring that if the Board of Trade did not clean house, then the USDA would put them out of business. Investigations into erratic market behavior by large professional speculators caused a newly created agency of the USDA, the Grain Futures Administration, to request detailed information of the existing positions of some of the largest traders at the Board of Trade. Several members did not initially comply with filing these new reports but eventually submitted to the authority of the new regulatory body.

This tension between the new federal regulators and the Board of Trade, led to the creation of a new entity called the Board of Trade Clearing Corporation (BOTCC) as well as a new business conduct committee at the Board of Trade. However, even though the Board of Trade eventually succumbed to governmental pressure for the new organization and committee, they fought unsuccessfully for the reinstitution of trading in "Privileges" (now called Options). Since 1926, the Board of Trade Clearing Corporation (BOTCC) has remained an integral part of the market infrastructure as it has successfully minimized the nonperformance risk among futures market counterparties, even though it has lacked the prominence and visibility of the Chicago Board of Trade itself.

In 1936, Congress enacted the Commodity Exchange Act which likewise was enforced by the United States Department of Agriculture until 1974. In the 1970's, futures contracts began expanding into non-agricultural markets such as metals, petroleum, financials, and currencies market. Therefore, Congress recommended that an all-purpose agency be created to oversee both the traditional and expanding non-agricultural commodities. This new agency was christened, the "Commodity Futures Trading Commission (CFTC)".

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Another important feature of this legislation was to broaden the definition of the word "commodities" so that the CFTC would have jurisdiction over the old and newer contracts. However, the CFTC had to refrain from using the word "securities" which would set off alarm bells at the Securities Exchange Commission which was very eager to regulate these emerging financial products.

Securities Law students are very familiar with the landmark Supreme Court case that provided the litmus test for determining if an investment contract was a security. In *SEC v. W.J. Howey*, 328 U.S. 293 (1946), the Supreme Court coined the famous "Howey Test" which became the cornerstone for defining what investments were within the definition of a security. At first blush, it seems that a Futures contract would fall under this definition of a security. However, even before Congress created the CFTC, the issue whether commodities were a security had already been decided in the negative. In *Sinva, Inc. v. Merrill, Lynch, Pierce, Fenner & Smith, Inc.,* 253 F. Supp. 359 (SDNY 1966), the district court held that a commodity futures contract was not an investment contract because the purchaser did not gain a share in a common enterprise but is merely acquiring the power to exercise control over commodities and any expected return is not dependent upon the efforts of others.

After the CFTC came into existence in 1974, the issue of its jurisdiction was quickly challenged as well. In *State of Texas v. Monex International Ltd. (Tex.Ct.Civ App. 1975),* the State of Texas sought injunctive relief against Monex International for providing margin accounts for trading in silver coins; however, that relief was denied as the court decided the newly created CFTC was the federal regulator that had exclusive jurisdiction over the type of transactions at issue. Later, the CFTC's jurisdiction was found to extend to interstate commodities transactions and thus the rules of other agencies did not apply. *Trustman v. Merill, Lynch, Pierce, Fenner & Smith* (CD Cal. Jan, 1985).

In 1981, the CFTC gave its approval for the National Futures Association (NFA) to become the self-regulatory organization (SRO) for the futures industry. It was empowered by the CFTC as per §17 of the Commodity Exchange Act to maintain the integrity of the Futures markets and protect the public investor. However, unlike the NASD, the National Futures Association is not affiliated with anyone marketplace. Yet, the relationship between the CFTC and the NFA is very similar to the relationship between the SEC and the NASD (albeit on a smaller scale). The NFA performs several regulatory activities such as (1) auditing members to enforce compliance with NFA financial requirements; (2) establishing and enforcing rules and standards for customer protection; (3) conducting arbitration of futures-related disputes; (4) performing screening to determine fitness to become or remain an NFA member. Furthermore, the NFA is responsible for regulating Futures Commission Merchants (FCMs), Introducing Brokers (IBs), Commodity Trading Advisors (CTAs), and Commodity Pool Operators (CPO's). However, the NFA has no direct authority over Derivatives dealers unless they are registered members (and most are not registered for this very reason).

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In the 1990's, the Chicago Futures Markets challenged the Over-the-Counter (OTC) market in order to prevent them from developing *off-exchange* electronic trading platforms. In *Board of Trade of the City of Chicago v. Securities and Exchange Commission*, 923 F.2d 1270 (7th Cir. 1991), the Chicago Board of Trade and the Chicago Mercantile Exchange were unsuccessful as they challenged the operation of an electronic share exchange as the illegal operation of a stock exchange. A brokerage firm, clearing firm, and a financial institution operated a computerized system which allowed those who were interested in buying or selling stocks or commodities could list their interests. Once matched buy and sell requests were found, a trade would be executed. The SEC ruled this was not an exchange and the 7th Circuit agreed which paved the way for a plethora of "electronic share exchanges" also called "trading platforms" to evolve. This decision would be the catalyst for increased trading volume in Derivatives which are Futures-type contracts traded *off-exchange* by institutions.

IV. BASIC RISK MANAGEMENT STRATEGIES FOR HEDGERS

Risk Management has become the new buzz word for "Hedging", yet both these terms are still used interchangeably. Typically a "Hedger" is a person or entity that takes a Futures or Options position that "offsets" a risk in a concurrent "cash" market position. For example, a natural gas producer (who has gas production coming in from wells each month) could take a Futures or Option position (or a combination of both) that would provide price protection should the market decline. In market jargon, we would say that the gas producer is "*long* the cash" and therefore would need to "*short* the futures market" to shift his price risk exposure onto the Futures Market. Notice how the price risk in the *long cash* is offset by the *short futures*, thus a "Short Hedge" occurs. Of course, the Hedger determines when to hedge, the percentage to hedge, the strategy, the timing, and selects from multiple strategies (each with differing levels of risk, reward, and margin requirements).

However, some smaller producers are not offensive in their trading programs but look at risk management from a more "defensive" perspective. In the Futures markets, *fear* drives many of the market participants (including Hedgers) into various trading situations, whether it is a fear of lower prices (thus prematurely *entering* new short positions) or a fear that margin calls will become too excessive to meet (thus *avoiding* the futures completely and just selling the cash product instead). Yet, while many panic during times of extreme market volatility, some of the larger firms are poised to capitalize on these opportunities as they stand ready to provide liquidity to the market during temporary periods of high volatility.

Now, an entity that has negative price risk exposure *if the underlying commodity rises*, would be called a "Long" Hedger. To review, an entity that needs to avoid or minimize price *declines*, would be called a "Short Hedger", while one who seeks to avoid or minimize price increases, would be called a "Long Hedger". Even though the combinations of possible strategies are endless, there are several common risk management strategies used by all Hedgers today. Because of space constraints, this article will discuss several of these basic risk management

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strategies from the view point of a "Short Hedger" who needs price protection from a declining market

SPECULATE ON CASH MARKET

This first strategy is not really a strategy at all (although it could be viewed as the default strategy of doing nothing). Some commodity producers (who refuse to hedge) say that since they are always selling cash production at regular intervals, they will sometimes sell at market highs, sometimes sell at market lows, and sometimes sell in between. Therefore, they argue that the prices they receive throughout the year should average out in the end. Unfortunately, it was the failure of this strategy (letting the market dictate the price received at time of sale) that served as the catalyst for the development of cash forward contracts and subsequently Futures contracts that would allow producers to make pricing decisions well in advance of selling the underlying cash commodity.

CASH FORWARD CONTRACT

Now, the end result of a CASH FORWARD CONTRACT by itself is almost identical to the end result of a STRAIGHT HEDGE BY SELLING FUTURES (see page 32). The difference is that with a Cash Forward Contract, there is usually no initial margin deposit or subsequent margin calls made by the producer. However, if the market moves higher after the forward contract is in place, the end result is the same had margin calls been made anyway because there is no ability to participate in a higher market if prices rise after entering into a cash forward contract. Furthermore, cash contracts are usually quoted lower than the prevailing Futures Market price because the entity making the cash contract available to a producer needs to receive some profit for "making a market" in the forward pricing of the cash commodity. However, in a scenario where the market price drops precipitously, one of the major concerns with a cash contract is, *CounterParty Risk*. This is a term which defines the *risk of default* if the market drops so much that the other party doesn't show up in the end to fulfill their end of the contract (i.e. receiving the cash commodity in exchange and paying the producer the agreed price). This happened to many producers in the energy industry in their dealings with Enron. Enron had many ventures, one of which was cash forward contracting with oil and gas producers. When Enron surprisingly collapsed, it defaulted on many of its cash contracts. When one party to a Cash Forward contract defaults, the other party with damages will need to seek legal representation to litigate the breach.

BUYING CALL OPTIONS WITH CASH FORWARD CONTRACT

Producers who enter into cash contracts and are willing to take the counterparty default risks should consider simultaneously BUYING CALL OPTIONS in order to participate should the underlying price of the commodity rise. Now, the cash contract itself provides the unlimited downside price protection. However, if the Call Option is also bought, the hedger will still be able to participate should the market keep moving higher. Of course, the hedger will pay a premium for this Call Option, but the loss from the option will be limited to its initial cost.

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Yet, the Call Option will provide unlimited profit potential at the strike price and above (minus the cost of the option).

BUYING PUT OPTIONS

Buying Put Options is one of the most basic foundational hedging strategies and essential for any risk management program. Buying a Put allows a "floor price" to be set in at the selected strike price while still allowing one to participate if the market moves higher (unlike the Cash Contract or Straight Futures Hedge). Buying a Put is a one-time expense which means the initial cost of the option is the only financial obligation. There will be no further margin calls when an option alone is purchased. There are several strike prices available on each contract month. The closer the strike price is to the underlying futures contract, the more an option will cost. Again, the "floor price" gives the Put buyer unlimited profit potential at the strike price and below, while the maximum loss from the strategy cannot be more than the initial cost of the option. Some Hedgers buy cheap Put Options at their break-even-price to simply "hold their money together". This strategy usually complies with a bank's lending agreement which requires their borrower to use some form of risk management.

STRAIGHT HEDGE BY SELLING FUTURES CONTRACT

This is another basic hedging strategy and the one that has almost replaced the Forward Contract. When Selling the Futures, the Futures Price is locked in. Margin money must be deposited with the broker. This margin money is earnest money (good faith funds) that will be used to offset any losses in the account should the market keep rising. There is *unlimited risk if the market rises* and the position is subject to on-going margin calls that must be immediately met to keep the positions from being liquidated by the brokerage firm. However, there is also *unlimited profit potential to the downside in a declining market.* If the market drops, money immediately flows into the futures account even before the position is offset. There is virtually no Counter-Party Risk because the exchange is the other party to the transaction, not some person or small corporation like in a cash forward contract. Basically, Futures are really "exchanged traded forward contracts" that have been standardized so that all terms (contract size, grade, delivery, etc) are uniform and disclosed to all market participants. The Futures market gains or losses are then either credited or debited to the concurrent cash market transaction to complete the analysis of this risk management strategy.

THE WINDOW/FENCE: (BUYING PUTS / SELLING CALLS)

This strategy is rather complicated and is not suitable for the first time hedger. Basically, a floor price is set in at the strike price where the Put is bought. However, this strategy also requires that a "ceiling price" be set in somewhere above the current futures price which is done by Selling a Call. The advantage is the market will pay

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back some premium for setting in the "ceiling price" and this premium can be used to offset some of the purchase price of the Put. Because there is extra premium obtained from Selling the Call, a higher strike price on the Put might become more affordable when using this strategy. In other words, experienced hedgers use this strategy to set in a higher floor price because the Call that is sold offsets much of the cost of the Put. However, because of the "ceiling price" created from Selling the Call, initial margin money is also required (in addition to the cost of the Put). There is now unlimited risk above the Call strike price and additional margin calls will be required if the market moves higher.

COSTLESS COLLARS (another type of WINDOW/FENCE)

Exactly the same as the Window/Fence, except that the Call Option that is sold is at or near the same price as the Put Option that is bought. Thus, the price of the protection nets out near $0 (zero dollars). Likewise, margin money for Selling the Call is also required as well as the potential for additional margin calls. However, as the name "costless" implies, as long as the Futures Price stays below the strike price of the Call, the protection in the end will cost almost nothing and will still provide unlimited downside protection at the strike price of the Put.

THE BUTTERFLY: (Another type of WINDOW/FENCE with a twist)

This is another complex strategy. The Butterfly starts out as a Window/Fence except that another Put is also sold several strike prices below the first Put Option that was bought. Selling this other Put is the extra twist because it cheapens up the cost of the Window because more premium is received from the additional Put that is sold. However, profit potential is no longer unlimited to the downside but is now limited to the difference between the two strike prices of the Put Options (less their net cost). Unfortunately, in a steep drop in prices, the profit potential from this risk management strategy is limited.

PUT SPREAD: (BUYING A PUT / SELLING A PUT)

This strategy is not as complex as it sounds. Basically it is the Butterfly above without the Ceiling Price since no Call Option is sold. Now, if the Cash and Futures Market moves higher, there is full participation to the upside and no margin calls. However, to the downside, the most that can be made is the difference between the strike prices of the two puts (less the net cost). It is a one-time expense and there is no subsequent margin calls. This strategy may be appropriate when volatility levels are such that the options seem too expensive but some protection is still desirable. Again, in a market crash, the profit potential from this strategy is also limited.

SYNTHETIC PUTS: (SELLING FUTURES / BUYING CALLS)

This complex hedging strategy works very similar to the simple strategy of just buying a Put but has much more

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flexibility. Remember, the traditional Put Option allows the buyer to pay a premium for a certain strike price which provides unlimited protection at the selected strike price. In the Synthetic Put, the Futures are sold (for the downside protection) and a Call option is bought to keep losses from the futures predetermined should the market continue to rally. This strategy contains other advantages and disadvantages that are too numerous to mention. Yet for advanced hedging programs, this strategy provides some the greatest flexibility because either side of the position could be liquidated in some profitable situations (but doing so will of course change the risk structure of the entire hedge).

One of the drawbacks of Synthetic strategies is that they have the largest requirements for initial margin money since the option that is purchased must be fully paid for and the margin for the entire futures position must be met as well. Furthermore, when the futures position is losing large amounts of money, those margin calls must be met even though the option may be absorbing most of the loss. This anomaly is possible because gains in option value due to market appreciation (unlike futures) cannot be used for margin purposes. In other words, even though the option may be shielding actual losses from the futures position, the gain in value from the option cannot be *realized* until it is liquidated. Therefore, experienced risk managers realize that even if they are forced to send in additional margin funds during the time of this synthetic strategy, once the option is liquidated, those extra margin calls will be returned.

SUMMARY OF RISK MANAGEMENT STRATEGIES

For all commodities, futures, and derivatives, a risk management program is essential for any entity's long-term survival. Frankly, it does not matter much if the hedging plan is simple, moderately advanced, or extremely complex. For best results, top risk managers combine several of these hedging strategies rather than focusing on just one, realizing these strategies are tools for transferring price risk from the cash market onto the Futures market (each with different levels of risk and reward) all working together to minimize price risk and insure long-term financial viability.

V. DERIVATIVES, SWAPS, CONTROVERSIES, COURTS & CONGRESS

Commodity cash forward contracts were the predecessors of what became a sophisticated collage of Futures contracts which now trade on Commodity Exchanges around the world. It could be said Futures and Options were "*derived"* from the underlying cash commodity from which they were created to emulate. However, the metamorphosis continues. Over the past two decades, large market participants (particularly banking institutions) have financially cloned Futures & Options thereby creating a new class of innovative financial contracts called "Derivatives". These *off-exchange traded* Derivatives primarily exist on the Over-the-Counter Market (OTC).

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The OTC Market is a non-regulated market consisting of mostly large banks and institutional clients where trades are conducted privately over the phone or through computer networks and not on an Exchange.

It is quite common after an institution books an *off-exchange* Derivative contract with a counterparty for it to simultaneously lay off that same risk in an offsetting transaction on a U.S. Exchange using an *exchange traded* Futures or Options contract. This dual function trading activity is called "arbitrage" whereby market players look for inefficiencies in either market and then take offsetting trades, pulling out small amounts of profits in the process. However, because of the leverage available in Futures and Derivatives contracts, those small profits can become quite substantial because the "notional value" is so large (notional value is the size of the contract agreed upon by the parties). *Notional value* of a Derivatives transaction is synonymous to the *contract size* of an exchange traded Futures contract.

Another arbitrage play (where banks are making enormous profits) occurs where a financial institution enters into a Derivative contract with one of its customers thereby taking the opposite side of the client's position. Now, the client is allowed to place the Derivative trade without posting any additional margin funds because the financial institution already has a loan with the client (or a sufficient amount of collateral has already been deposited). This seems attractive to the client because (if approved) trades can be executed without posting additional margin funds. However, according to Dennis Kissler, a floor trader and institutional futures broker, the banking customer rarely sees how much he gives up in this much wider bid/ask spread than had he directly booked the trade on his own into the exchange traded futures market. Indeed, the financial institution supplies a new service to the client (convenience of the transaction without posting initial margin requirements) as long as client has large enough line of credit and enough collateral with the bank. However, much of the time, the financial institution "*lays off*" that risk (by executing the exact opposite trade) in the exchange traded futures market pocketing the difference in a matter of minutes (and the client is never the wiser).
Kissler concedes his viewpoint may seem biased (as a Futures broker who may have lost business to financial institutions engaged in Derivatives trading) but he claims he is busier than ever. Kissler said, "*In my seventeen years in the Futures Industry, I've never been more busy...who do you think calls me now to work the bid/ask spread through my floor brokerage groups to get the best possible fill price...the institutions of course...I haven't left the dance...only my partner has changed*."

The Over-the-Counter (OTC) market is the virtual exchange used for the trading of securities, futures, options, swaps, and other Derivatives transactions that do not take place on an exchange but rather trade *off exchange* between financial institutions and large institutional clients. There are several types of Derivative contracts but the

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"Swap" and "Hybrid" are the most common. Now, Futures & Options are sometimes referred to as Derivatives as well but Derivatives are distinct in that they trade *off-exchange*.

According to the Bank for International Settlements, the amount of Outstanding OTC Derivatives around the world was valued at $US 127 trillion as of June 2002. Interest Rates overwhelming represent the bulk of Derivatives transactions (mostly Swaps) and comprise about 70% of that total while Foreign Currency Exchange is a distant second with only 14% of the market share. In comparison, Futures traded on organized exchanges around the world is much smaller ($US 23 trillion). In other words, when looking at the Futures/Derivatives Industry as a whole, the contracts traded *off-exchange* represent more than *80%* of the industry while exchange traded contracts represent 20%. However, some leaders within the Futures Industry believe the total amount of Futures/Derivatives world-wide has grown to $200 trillion in 2003 but that the exchange traded contracts have recently grown at a more rapid rate and now compose 1/3 or 33% of the total outstanding value.

Some believe this reason for a revival in exchange traded Futures contracts is due to the financial fallout of Enron as Leo Melamed, Chairman Emeritus and Senior Policy Advisor of the Chicago Mercantile Exchange said, *"....because Enron and the post-Enron world underscored the strength of a centralized exchange clearing and removing the single counterparty risk involved made a big difference.....the CME's open interest since the Enron failure has grown by something in excess of 40%".* However, despite Enron's demise, Oil & Gas trading through Derivatives firms will continue alongside the traditional methods of clearing of trades through the floor on the Exchange. Some energy companies attempt to balance counterparty risk by spreading out their risk management trading programs across multiple counterparties rather than booking all the trades with just one or two Derivatives firms. Yet, Enron created a new set of problems for publicly traded companies as the reporting of Derivatives transactions in quarterly reports has come under much scrutiny from the SEC but no clear guidance has yet emerged.

In 1989 the Commodity Futures Trading Commission (CFTC) considered regulating swaps as futures contracts. Ultimately, the CFTC said that *if* counterparties in their private "swap" transactions would not standardize the terms, would not permit unilateral offset before maturity, would not create a formal margining system, would not allow participation by those with no business purpose, and would not market swaps to the general public, then the CFTC would not regulate swaps as futures contracts. However, as time progressed, this framework was headed for a clash with regulators because the Derivatives contracts that were being traded were almost exactly like the Futures, except they were not traded on an exchange. Strangely enough this practice of creating a bilateral contract and allowing the two parties to make or lose money based on an underlying market sounds eerily similar to the bucketshops that existed in the late 1800's which also networked with one another *off-exchange* and placed bets (a type of swap) on the underlying market.

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Swaps are the predominant type of Derivatives contract. A swap is an OTC transaction where two parties agree to exchange payment streams (one person wins the other person loses) based on a specific "notional amount" (similar to contract value) for a specified period. In other words, the notional amount of a swap is the underlying principal amount in which some calculation is based depending upon if the underlying contract is an interest rate, foreign currency exchange, stock index, gold, or energy contract. Typically, there is a settlement day on the last day of the contract where the loser must pay the winner based on where the underlying market closed on the last day of the Derivative contract.

Credit Derivatives are one of the more recent innovations that allow one party, the beneficiary, to transfer credit risk of a "reference asset" (which may or may not be owned by the party) to another party who is called the "guarantor". This allows the guarantor to assume the credit risk associated with the asset without directly purchasing it either. Both sides of this transaction are analogous to an Option where a purchaser pays a premium to the seller for price protection on an underlying asset.

Since trading in Derivatives requires large amounts of capital, it is primarily the playing field of large corporations, governments, hedge funds (a hedge fund is really a speculative fund and only *hedges* to the extent as an arbitrager) banks and other financial institutions.

Portfolio managers, who want to be free from most of the regulations imposed by the SEC and the CFTC, organize what is called a *hedge fund*. A Hedge Fund is a trading entity formed as a limited partnership where the limited partners are the investors. These limited partners contribute money to the portfolio and the general partners manage the portfolio. Typically, the hedge fund investor must invest $1 million or have a net worth of $5 million. Since the hedge fund is only made up of "wealthy people", the SEC does not feel they need to monitor them like other mutual funds made up of many small investors (although this view is changing). However, because of the composition of wealthy investors, a hedge fund usually takes large risks. Therefore, Futures, Options, and Derivatives play a big role in their portfolios.

Alan Greenspan and Warren Buffet opposing views on Derivatives contracts

Depending on the market guru, Derivatives are either a "Dr. Jekyl or Mr. Hyde". For example, Federal Reserve Chairman, Alan Greenspan, has been the most influential advocate of Derivatives. Greenspan frequently "pounds the table" with such flowery language such as recorded by the Wall Street Journal in 2002. Greenspan said,

> **"Financial Derivatives have grown at a phenomenal pace over the past 15 years.....Banks appear to have effectively used such instruments to shift a significant part of the risk from their corporate loan portfolios to other institutions.....These De**

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rivatives transactions represent a new paradigm of active credit management techniques and are a major part of the explanation of the banking system's strength during a period of stress."

However, Derivatives have their famous detractors as well. At the other end of Greenspan's utopian paradigm of Derivatives trading, another Wall Street icon, Warren Buffet, paints a picture of an imminent financial Armageddon. In Berkshire Hathaway's annual report for 2002, Mr. Buffet goes on to say,

"Derivatives are financial weapons of mass destruction, carrying dangers that while now latent, are potentially lethal.....Derivatives and the trading activities that go along with them are time bombs....History teaches us that a crisis often causes problems to correlate in a manner undreamed of in more tranquil times....Unlike commercial banks, investment banks don't have central banks watching them.....Linkage, when it suddenly surfaces, can trigger serious systemic problems."

However, even Mr. Greenspan acknowledges the leverage and financial risks (although he believes their risk is manageable) associated with Derivatives.

"But more sophisticated risk management techniques and especially the various forms of derivatives are by construction, highly leveraged. They are thus prone to induce speculative excesses, not only in the U.S. financial system but also through the rest of the world. This potential for systemic risk can be contained through a combination of regulation, supervision, and private-sector action, including better public disclosure. But ultimately, some of that systemic risk must also be absorbed by central banks."

The purposes and ideals advocated by Chairman Greenspan suggest that Derivatives do have a place in our financial markets. Yet, Mr. Buffet's cataclysmic warning about Derivatives goes to the heart of their "double-edge sword" characteristic (with high return comes very high risk) as evidenced from the enormous losses suffered by the following institutions in their Derivatives trading programs.

Proctor & Gamble (lost $200 million in 1994).

Derivatives (like Futures) would also face a judicial determination whether they met the definition of a security under the Supreme Court's "Howey test". *Proctor & Gamble Co., v. Bankers Trust*, 925 F. Supp. 1270 (S.D. Ohio

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1996). Bankers Trust, a Broker Dealer and Derivatives firm, entered into an Interest Rate and Currency Swap transactions with Proctor & Gamble (P&G), a publicly traded company. These swap agreements were originally negotiated in late 1993 and early 1994. During the preceding year, interest rates in both the United States and Germany moved substantially higher which resulted in huge losses for P&G. The counterparty to the transaction, Bankers Trust, claimed that they were owed over $200 million on the two swaps. However, P&G claimed that since it was fraudulently induced into these transactions and because the swaps were fraudulently executed, P&G should owe nothing to Bankers Trust. Furthermore, P&G alleged fraud, misrepresentation, breach of fiduciary duty, negligent misrepresentation, negligence, violations of the Securities Acts of 1993 and 1934, the Commodity Exchange Act, Section 10(b) of the Exchange Act of 1934 and Rule 10b-5, as well as several Ohio state laws.

This was a novel case because it involved questions of first impression whether swap agreements would fall within federal securities laws, commodities laws, or Ohio Blue Sky state laws. The court held that the swap agreements *were not securities* as defined by the Securities Acts of 1933 and 1934 and the Ohio Blue Sky laws and that these swap agreements *were exempt* from the Commodity Exchange Act.

Bankers Trust argued that swaps were not investment contracts because neither parties to the swap "invested any money", rather they agreed to exchange cash payments at a date in the future. Likewise, the swaps did not involve an investment in a "common enterprise" which entails pooling funds for the purpose of a business venture. Moreover, Bankers Trust argued the gains from the swaps were "not profits derived form managerial or entrepreneurial efforts of others" but were payments to be made to either party of the transaction according to future changes in U.S. and German interest rates. While the court stated that swaps may meet some of the elements of the Howey test, the missing element was "*the lack of a common enterprise"* as P&G did not pool its money with that of any company nor did it join together in a common venture with Bankers Trust. Contrary to P&G's assertion, the court found that P&G was a counterparty with Bankers Trust and therefore they could not be lumped together as a "common enterprise. Furthermore, since Bankers Trust was not managing P&G's money and the value of the swaps depended on market forces and not Bankers Trust's entrepreneurial efforts, the swaps were not investments contracts. The court went on to hold that neither were the swaps *notes* as they failed to meet all of the prongs of the "Reves Family Resemblance test". Therefore, the swaps would not fall under the purview of the Securities Acts of 1933 and 1934.

On the other hand, the court stated it did not decide the issue *if swaps were futures contracts* because P&G failed to state a claim under this issue. Moreover, the court commented how as of January 1996, the CFTC had not taken a position whether swap agreements were futures contracts even though it had been granted authority under Title V of the Futures Trading Practices Act of 1992 to exempt certain swaps transactions from the Commodity Exchange Act (CEA) coverage under 7 U.S.C. §6(c)(5).

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Furthermore, even if the swaps were exempt from other provisions of the CEA, they would still be subject to its anti-fraud provisions.

Even though the court had spoken in *Proctor & Gamble* that Derivatives were not securities, their characteristics were still more likely to fall under the auspices of the Commodity Futures Trading Commission (CFTC). Prior to the Commodity Futures Modernization Act of 2000 (CFMA), two long standing rules enforced by the Commodity Futures Trading Commission were: "No futures contract can be bought or sold except on or under the rules of a CFTC-licensed exchange" and "Futures Contracts on individual corporate securities are forbidden". Even though the CFTC in the early 1990's chose to not regulate OTC Derivatives as Futures, it was still feared that states might invoke their gambling laws because the "winners" and "losers" were determined by a chance outcome based on an underlying benchmark or index.

Orange County, CA (bankrupt after $1.7 billion loss in 1994).

One of the alarm bells that should send investors running for cover is when a portfolio manager tells investors, "*don't worry…these are just paper losses*". Robert Citron was a county treasurer whose Derivatives investments lost $1.7 billion in 1994 and caused Orange County to become the largest municipal failure in history. However in the 1980's, Robert Citron's return on Orange County's portfolio outperformed other treasurers, including the state fund. How? He did it by investing in riskier securities. The higher returns led many cities, agencies, and school districts to put their money in the Orange County fund. When the fund collapsed, 185 cities and other agencies had contributed a total of $7.6 billion into the pool. By taking money it was borrowing from reverse-repo transactions and buying more Treasury securities, Orange County was able to purchase $20 billion worth of securities for a portfolio that only had $7.6 billion in equity. Again, leverage is a double-edged sword.

In the years that led up to 1994, interest rates continued to decline which was good news for Orange County's leveraged bond portfolio which outperformed its peers. However, during 1994, the Fed increased short-term interest rates six times from 3.0 % to 5.5% catching many bond investors by surprise. Higher interest rates caused the value of bonds to fall. The leveraged portfolio only magnified the losses. However, in September, Citron called the losses just "paper losses" but by December, Orange County publicly announced the loss which had grown to $1.5 billion. Citron was forced to resign and he pleaded guilty to six counts of securities fraud and mismanagement. He was fined $100,000 and sentenced to one year in jail.

Barings Bank (bankrupt after $1.1 billion in trading losses in 1995).

In 1995, it was discovered that arbitrage trader Nickolas Leeson racked up losses in excess of $1 billion which bankrupted the 223-year-old Barings Bank of London. Nick Leeson ran an arbitrage trading desk for the bank.

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Barings Bank had access to the SIMEX Futures Exchange as well as Derivatives markets in both Singapore and Osaka, Japan. However, instead of booking trades for Barings' clients and performing arbitrage activities to lock in small trading profits, on his last day of work, Nick Leeson had accumulated 61,039 Nikkei Futures Contracts, 26,000 Japanese Bond Futures, and a huge stock option straddle position (all of which were losing millions of dollars). Not only did Nick guess wrong on all three positions (and continue to add to those losing positions) but unfortunately for Barings Bank, he also had access to back office records which allowed him to cover up the trading losses for over two years. The total loss was over $1 billion.

Long-Term Capital Management (lost $4.5 billion in 1998 and Federal Reserve led a Wall Street bailout to avert a financial crisis).

John Meriwether, Larry Hilibrand, as well two famous Nobel Prize economists, Merton Miller and Myron Scholes, helped found Long-Term Capital Management (LTCM) in 1993. Initially, $1.25 billion of capital was raised for the fund but more would come later. Prior to LTCM, Myron Scholes achieved fame for his contribution to the "Black-Scholes Option Pricing Theory" in which mathematical equations were created to value market price behavior. LTCM used this theory to value Derivatives transactions in a variety of markets, especially bonds. As an aggressive Hedge Fund, LTCM became famous as it invested in Derivatives and other highly leveraged speculative strategies with the objective of taking advantage of market irregularities. At its peak, a $1,000 initial investment in LTCM would have grown to $4,000 in just four years. However, *it took just five weeks for LTCM to lose over $4 billion.*

> **"The fund (LTCM) had entered into thousands of Derivative contracts, which had endlessly intertwined it with every bank on Wall Street. These contracts, essentially side bets on market prices, covered an astronomical sum – more than $1 trillion worth of market exposure".**

In September 1998, the Federal Reserve orchestrated a $3.65 billion bailout of LTCM which included fourteen Wall Street banks (most of them were LTCM's counterparties on many of these trades). The Fed was extremely concerned as several large financial institutions had entered into swap contracts with LTCM. Severe market repercussions were expected to follow if LTCM defaulted on its swaps which some suggested would send shockwaves throughout the entire financial markets. Interestingly, both George Soros and Warren Buffet became potential white knights for LTCM. However, during LTCM's demise, Soros was having hedge fund problems of his own. On the other hand, Buffet did in fact make a low bid for LTCM, but it was rejected.

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From January 1998 to the September bailout later that year, LTCM was long Russian Bonds, short Japanese Bonds, long S&P 500 stocks, (among other losing positions) which totaled $1.6 billion in losses. Furthermore, LTCM lost another $1.3 billion loss in Equity volatility and $1.6 billion loss in Swaps, bringing the grand total loss to $4.5 billion. After the bailout on September 29, 1998 (and even with the Federal Reserve lowering interest rates on the very same day) LTCM's bleeding continued. Within the first two weeks, the new consortium of rescuers lost a combined $750 million (perhaps Buffet's low bid was a prophetic indication that things would get worse before they got better). The consortium's losses in their new hastily arranged venture quickly translated into lower stock prices for their publicly traded companies as they reported these losses to their shareholders. On October 15th, the Fed cut rates again for the second time (signaling that it would continue to do so until this crisis subsided). Since April, LTCM had lost almost $5 billion dollars, 92% of its value from top to bottom. However, October would ultimately prove to be the bottom. During the next two years, LTCM would be virtually liquidated as market conditions gradually improved. Even though the Federal Reserve did not contribute any funds directly to the bailout, without the Fed's organizational assistance and subsequent interest rate cuts, the LTCM debacle had the potential of causing a severe systemic crisis. Surprisingly, just six months after LTCM's demise, Greenspan would still call for a less burdensome regulation of Derivatives.

Enron (Derivatives losses and off-balance-sheet fraud discovered in 2001 leads to a $1.2 billion reduction of equity and ultimate bankruptcy for the largest energy and derivatives trading firm in the world).

Enron. Some called it another LTCM. The bankrupt publicly traded company of Enron made infamous a cast of characters such as Kenneth Lay, Jeffery Skilling, Andrew Fastow, and whistle-blower Sherron Watkins. Enron's auditor, Arthur Anderson, received the death penalty and is no more. Off-balance-sheet assets and Special Purpose Entities (Enron's SPE's were called Raptors) were used to "cook the books" at Enron to disguise transactions and hide losses from shareholders. In response to Enron's fraud, the Sarbanes-Oxley Act of 2002 was overwhelming passed by Congress setting new requirements for publicly traded companies in the areas of Accounting, Securities, and Corporate Governance. The stated purpose of Sarbanes-Oxley is "to protect investors by improving the accuracy and reliability of corporate disclosures made pursuant to the securities laws and for other purposes".

It all began in 1984 when a small energy company called Houston Natural Gas would eventually transform itself into a giant trading company that became known as Enron. Unfortunately, Enron became involved in almost every new market that came along, including Derivatives. Not only was Enron a player in energy Derivatives, it ex

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tended its energy trading model to Weather Derivatives and Internet Bandwidth Derivatives. In fact Enron created the first Weather Derivative in 1997. By 1999, Enron's internet trading platform became the world's largest business-to-business platform averaging 6,000 trades per day worth $2.5 billion.

At the heart of Enron's controversy and fraud were its Derivatives transactions which it entered into with several Raptor's (SPE's) which totaled over $1.5 billion. Basically, Enron booked over $500 million in income from these Derivatives transactions. However, the Raptor's lacked sufficient credit capacity to pay Enron on its hedges as Sherron Watkins (an Enron accountant) soon discovered. In Watkins' anonymous (but now infamous) memo, she methodically linked Enron's woes to its Derivatives (swaps) transactions.

> **"We (Enron) recognized over $550 million of fair value gains on stocks via our *swaps* with Raptor, much of that stock has declined significantly.....The value in the *swaps* won't be there for Raptor, so once again Enron will issue stock to offset these losses.....It sure looks to the layman on the street that we are hiding losses in a related company and will compensate that company with Enron stock in the future.....the equity holders have no skin in the game, and all the value in the entities comes from the underlying value of the *derivatives*, unfortunately in this case, a big loss.....Looking at the stock we *swapped*, I also don't believe any other company would have entered into the *equity derivative transactions* with us at the same prices or without substantial premiums from Enron. Raptor looks to be a big bet, if the underlying stock did well, then no one would be the wiser. If Enron stock did well, the stock issuance to these entities would decline and the transactions would be less noticeable. All has gone against us. I firmly believe that executive management of the company must have a clear and precise knowledge of these *(derivatives) transactions* and they must have the *(derivatives) transactions* reviewed by objective experts in the field of securities and accounting. .....The related party entity has lost $500 million in its *equity derivative transactions* with Enron. Who bears that loss? I can't find an equity or debt holder that bears that loss. Find out who will lose this money. Who will pay for this loss at the related party entity? If it is Enron, from our shares, then I think we do not have a fact pattern that would look good to the SEC or investors."** (*empasis added)*

Enron's subsequent bankruptcy was the largest in U.S. history at that time. At its peak, Enron reached over $90 per share in August 2000. By December of 2001, the stock price would be worthless. Coincidentally (or perhaps not), the Natural Gas and Crude Oil Futures also dropped severely during this same time period which caused oil

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and gas companies who contracted with Enron (instead of booking their trades through the Exchange) to lose millions of dollars when Enron defaulted on their contracts.

In January of 2002, Swiss-based Wall Street firm, UBS Warburg (the last firm to downgrade Enron's stock) would purchase Enron's energy trading business by beating out Citigroup. Enron's energy trading business generated about 90% of the company's $101 billion in revenue in 2000. For this business, UBS Warburg paid $0 upfront (that's right, zero dollars) and agreed to pay Enron and its creditors 33% of the pre-tax profits for two years with an option of buying Enron's stake in subsequent years. Former Senator Phil Gramm would join UBS Warburg a few months after its Enron purchase.

How much the board of directors knew about the accounting treatment of the SPE's and Enron's Derivatives transactions is unclear. However, Enron's Board of Directors was not without the highest Derivatives expertise. In 1993, former Chairperson of the Commodity Futures Trading Commission (CFTC), Wendy Graham (and wife of Senator Phil Gramm), left her post at the CFTC to join Enron's board of directors. During her tenure at the CFTC (1988-1993), Graham fought aggressively for swaps and other Derivatives to be exempt from CFTC regulation. In fact, virtually her last official act as CFTC chair (before joining Enron) was to grant a regulatory exemption for OTC Derivatives.

Prior to LCTM and Enron's demise, CFTC Chairperson Brooksley Born, favored stronger regulation of the Derivatives industry. Indeed, the Wall Street Journal reported how Born on April 21, 1998, stood her ground in a skirmish with Fed Chairman Alan Greenspan and then Treasury Secretary Robert Reich during a meeting of regulators before the President's Working Group on Financial Markets (a committee which was formed after the stock market crash of 1987). Mr. Reich brusquely informed Ms. Born that she had no right to explore whether more regulation of Derivatives was needed. Likewise, Mr. Greenspan warned that she risked disrupting the U.S. capital markets. However, Ms. Born unflinchingly asserted that as the head of the independent agency (the CFTC) she had the authority and would go right ahead.

Leading Wall Street Derivatives firms such as J.P. Morgan and other Derivatives users like Enron beseeched both the Fed and the Treasury to stop Ms. Born as the CFTC released a "Concept Release" which raised 75 questions about the way the Derivatives market was regulated. Even pro-investor advocate and then SEC Chairman, Arthur Levitt, issued a statement voicing his serious concerns about Born's CFTC study. A few months later during an interesting exchange of amiable banter, Mr. Greenspan would complain to the House Banking Committee that Ms. Born was trying to "*pick a fight with the capital markets"*. He went further to say (referring to the proposed Concept Release about Derivatives) that "*if somebody says to me that that they are contemplating punching me in the nose,*

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I don't presume that it is a wholly neutral statement". Ms. Born, a veteran litigator, suggested that Mr. Greenspan had a distorted perception. She told him she was merely inquiring (again referring to the Concept Release), *"Do you think you need a punch in the nose"?*

Ms. Born's concerns about the OTC Derivatives market in early 1998 proved to be prophetically accurate as LTCM would blow up just a few months later (and Enron would follow a few years later). After the LTCM debacle (in a speech to the Chicago Kent-IIT Commodities Law Institute) Born would declare,

> **"Unlike Futures Exchanges where bids and offers are quoted publicly, the OTC Derivatives market has little price transparency. Lack of price transparency may aggravate problems arising from volatile markets because traders may be unable accurately to judge the value of their positions or the amount owed to them by their counterparties. Lack of price transparency also may contribute to fraud and sales practice abuses, allowing OTC Derivatives market participants to be misled as to the value of their interests. Transparency is, of course, one of the hallmarks of exchange-based derivatives trading in the U.S.....unlimited borrowing in the OTC Derivatives market like the unlimited borrowing on securities that contributed to the Great Depression may pose grave dangers to our economy.....Clearing of OTC Derivatives transaction could be a useful vehicle for imposing controls on excessive extensions of credit. I believe that it is essential for federal financial regulators to consider how to reduce the high level of leverage in the OTC Derivatives market and its attendant risks."**

In January of 1999, Born sent a letter to then President Bill Clinton informing him of her decision to not seek re-appointment for a second term. She would return to her very successful Derivatives law practice at the prestigious law firm of Arnold & Porter. However, one month before Born left the CFTC in June of 1999, she would encourage Congress to require hedge funds to file detailed quarterly reports indicating their exposure to market risk which would allow investors, counterparties and creditors to assess the hedge fund's credit worthiness. Furthermore, she suggested that this information should be made available to regulators and give them expanded risk assessment powers relating to unregulated affiliates of broker-dealers and futures commission merchants and to not rule out the possibility of direct regulation of Derivatives dealers.

Nonetheless, with her advice abandoned, the CFTC Concept Release was repealed in November of 2000. Shortly thereafter, the 106th Congress passed and on December 21, 2000, Bill Clinton signed into law H.R. 5660, which

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became the Commodity Futures Modernization Act of 2000 (CFMA). The stated purpose of the CFMA is to "reauthorize and amend the Commodity Exchange Act to promote legal certainty, enhance competition, and reduce systemic risk in markets for Futures and Over-the-Counter Derivatives, and for other purposes". The CFMA insured that Derivatives were here to stay and that their regulation remained unimpeded.

The CFMA is divided into four basic parts. **Title I provides legal certainty for Over-the-Counter Derivatives by excluding from the Commodity Exchange Act certain bilateral Swaps entered into on a principal-to-principal basis.** This means that these products offered by banks and other sophisticated parties are legal and enforceable. The CFMA also addresses the fears that by excluding OTC Derivatives from the futures laws, the SEC may attempt to regulate them as securities. The CFMA provides the SEC with only limited authority over Swaps for fraud, manipulation and insider trading. **Title II lifts the ban on Single and Stock Index Futures** by repealing of the Shad Johnson Accord and now Futures contracts can be traded on individual stocks and other baskets of stock indexes. The SEC and CFTC are authorized to jointly regulate the new single stock futures products as they can be traded on both Securities and Futures exchanges.

When it appeared the CFMA would not pass, Title III and Title IV were added. **Title III of the CMFA amends the Gramm-Leach-Bliley Act in regard to guidelines for the SEC in regulating equity-based Swaps.** New amendments were also made to the Securities Act of 1933 and the Securities Exchange Act of 1934. In addition, limitations were placed on the SEC's authority with respect to its jurisdiction relating to Swap Agreements and made clear that Security Based Swap agreements are not securities and prohibits the SEC from regulating them as such. Furthermore, the SEC does not have authority to regulate Securities Derivatives contracts entered into by banks nor is the legislation intended to place new regulatory burdens on banks. However, the SEC does have enforcement authority on a case by case basis in instances of fraud, manipulation, or insider trading in connection with Swaps.

Finally, **Title IV provides legal certainty for banking products.** It is a free standing part of the law (which means that it is not a part of banking or commodities laws) which clarifies the jurisdictional line between banking and futures products.

CONCLUSION

When the Securities Act of 1933 was enacted just within a few weeks of Franklin D. Roosevelt taking office, it was the first time national securities legislation had ever been passed by Congress. In his inaugural address, Roosevelt announced that "*the money changers have fled from their high seats in the temple of our civilization*" (which was a sym

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bolic reference to Jesus casting out the moneychangers from the temple). Later that spring, the Glass-Steagall Act of 1933 (also called the Banking Act) would radically alter the face of banking by creating deposit insurance and separating investment and commercial banking. However, some sixty years later, the Gramm-Leach-Bliley Act would repeal many restrictions contained in the Glass-Steagall Act which left some wondering if the moneychangers had indeed returned to Wall Street's temple. Of course, Derivatives (as we know them today) were not in existence in the 1930's. Nevertheless, the fact that Gramm-Leach-Bliley Act and the Commodity Futures Modernization Act of 2000 inserted exemptions for Swap Agreements directly into the Securities Act of 1933 suggests how influential the banking lobby had become.

Even though Derivatives received favorable treatment in *Proctor & Gamble v. Bankers Trust*, as well as special exemptions from the CFTC, the Gramm-Leach-Bliley Act, and the Commodity Futures Modernization Act of 2000, it is probable that Derivatives litigation will increase in the future due to the enormous financial losses associated with these colossal-sized transactions. To some it may appear (because of the large dollar amounts involved), that Derivatives losses are outrageous and should be banned altogether (although one could argue that there are outrageous profits as well). However, it should be noted that in the cases of fraud, financial losses are always outrageous when illegal activity by one party causes monetary damages to another. Therefore, the question is, do we really want federal regulators to limit a market participant's right to freedom of contract because one party "might guess wrong" and lose millions of dollars in a transaction? If both parties can financially assume the underlying inherent risks associated with Derivatives contracts (assuming they are made in compliance with full and fair disclosures) should we preclude their trading in the United States only to watch this business move overseas as Alan Greenspan suggests will happen?

These two issues (freedom of contract and overseas competition) may explain why Congress and the federal financial regulators have sought to keep OTC Derivatives exempt from scrutiny provided they remain the domain of institutions and not accessible to the investing public. Of course, the systemic risks that could potentially harm the world's financial system cannot be overlooked either. Perhaps the abuse of leverage is where regulators should focus their regulatory oversight by requiring some form of institutional margining of funds similar to the initial margin requirement system used by all Futures Exchanges. Yet, some would argue that this would simply turn OTC Derivatives back into exchange traded Futures contracts. Others point to a world organization already in place which is working to bring financial institutions together to insure uniformity and stability to the OTC Derivatives markets. That organization is called the International Swaps & Derivatives Association (ISDA).

The ISDA was founded in 1985 and has more than 600 members of which 202 are primary members representing

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the largest OTC Derivatives dealers. According to the ISDA, less than one percent of all outstanding OTC Derivatives ($127.6 trillion) are collateralized Since 1992, the ISDA requires transactions to be documented (in a "Master Agreement") between parties of different jurisdictions around the world and when transactions occur in different currencies. This Master Agreement also standardizes damages provisions, close out provisions, force majeure termination events, interest, and compensation provisions between the parties and it is widely accepted by most Derivatives dealers around the world.

While the court seemed unsympathetic to Proctor & Gamble's $200 million dollar Derivatives loss, perhaps prospective entities who are harmed by these contracts might be able to prevail under other legal theories. One phenomenon that has occurred after the passage of the Commodity Futures Modernization Act of 2000 is the number of new dealers entering into the OTC Derivatives markets. Mid-size Banks are likewise joining the Wall Street Banks and are jumping head first into Derivatives trading as a means to generate additional fees and create new profit centers by executing Derivatives transactions with their existing clients. Since the financial institution already has the customer's loan or investment banking business, it is a rather easy task to persuade (or demand) their client to use their new "in-house trading services". One inducement for the client (which is different from exchange traded products) is that margin funds do not have to be directly posted for Derivatives trades with the bank (although market fluctuations of the Derivatives will be assessed internally against lines of credit). Regardless of the marketing spin, *there is no free lunch*.

Since in many cases the bank already has a loan with the client, it can easily evaluate counterparty risk of the client by using credit information already in its possession (from a prior fiduciary purpose). Of course, if the client enters into Derivatives trades with the bank, the client's available collateral and equity will be closely monitored at all times, especially when the market moves against the client. Here lies the quandary. At what point does the financial institution breach fiduciary duties owed to the client when it switches roles from a fiduciary to a counterparty? What will the ramifications be after the client loses large amounts of capital through Derivatives losses (paid from the client directly to the bank) if the bank uses its existing relationship without a good faith and fair disclosure to the client (or uses undue influence) of all the important details of this new trading relationship (i.e. transaction fees, hidden costs, wider bid/ask spreads, increased interest costs, leverage risks, conflicts of interests, etc.)?

Unfortunately, banks and other financial institutions may become over confident if they rely too much on the *Proctor & Gamble* decision and recent legislation. They may be surprised to discover how their behavior was found to be culpable after all (based on other legal theories) and thus held financially responsible for the OTC Derivatives losses of their clients even though they alleged these were just "arms-length transactions".

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Indeed, the client not only runs the risk of its fiduciary becoming an adversarial counterparty but the client may be unknowingly booking *off-exchange* trades with the next LTCM or Enron (try explaining to shareholders that you were unable to collect on your *off-exchange* contracts even though they were profitable). Finally, if Warren Buffet is right, (although he too trades in both Futures and OTC Derivatives) unconstrained Derivatives trading might be the catalyst which causes the entire economic system to collapse in a financial holocaust. This warning reverberates in the closing words of a former Federal Reserve member who voices his consternation in his book about the impropriety of Securities & Derivatives Regulation. Martin Mayer writes, ***"The tragedy for all of us would be if the Fed, the Treasury, and Congress's reverence for people who make a lot of money left us unprotected against some sudden revelation of the truth that becomes obvious only in hindsight, that a lot of them don't know what they're doing".***

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KEY TO RISK MANAGEMENT

RIGHT PEOPLE
WITH
RIGHT SKILLS
USING
RIGHT TOOLS
TAKING
RIGHT DECISIONS
AT
RIGHT TIME

INTRODUCING MONTE CARLO SIMULATIONS TO EVALUATE HEDGE FUND INVESTMENT PERFORMANCE

BY RON SURZ, PPCA

Monte Carlo simulations are well-known to the alternative investments community. Randomly generated outcomes provide a backdrop for decision making by revealing what could happen under uncertainty. In this article we introduce a new use for Monte Carlo simulations that evaluates investment performance by comparing what actually happened -- a fund's actual return -- to what could have happened -- the range of possible implementations of the fund's strategy. Specifically we advocate the use of Monte Carlo simulations, rather than peer groups, for evaluating the performance of long-short equity hedge fund managers.

THE PROBLEMS WITH PEER GROUPS

Everyone who has earned the CFA (Chartered Financial Analyst) designation has learned the problems with peer groups: they are loaded with biases. But biases are not the major problem with hedge fund peer groups. The fact that hedge funds are unique is the big problem. Kat [2003] documents the lack of correlation among funds in the same peer group. For example Kat finds correlations to be a mere 0.23 among funds in market neutral peer groups, substantiating the fact that these funds are different from one another and therefore should not be compared to one another. Accordingly, it is virtually impossible to construct an appropriate peer group for a specific market-neutral manager.

Malkiel and Saha [2005] recently created a stir with their criticisms of hedge fund peer groups, and the hedge fund industry responded with their own criticisms of Malkiel and Saha's lack of understanding of the industry. Both are right. Malkiel and Saha identified some symptoms of the disease but failed to properly diagnose this disease as not only a myriad of biases but also, and most importantly, the uniqueness of hedge funds.

ENTER MONTE CARLO SIMULATIONS (MCS)

The solution to the problems with traditional peer groups is actually quite simple. Performance evaluation ought to be viewed as a hypothesis test where the validity of the hypothesis "Performance is good" is assessed. To accept or reject this hypothesis, construct all of the possible outcomes and see where the actual performance result falls. If the observed performance is toward the top of all of the possibilities, the hypothesis is correct, and performance is good. Otherwise, it is not good. In other words, the hypothesis test compares what actually happened to what could have happened.

In constructing a specific peer group, Monte Carlo simulations follow the same rules that the individual hedge fund manager follows in constructing his/her portfolio, as shown in Exhibit 1. The simulator uses these inputs to ran

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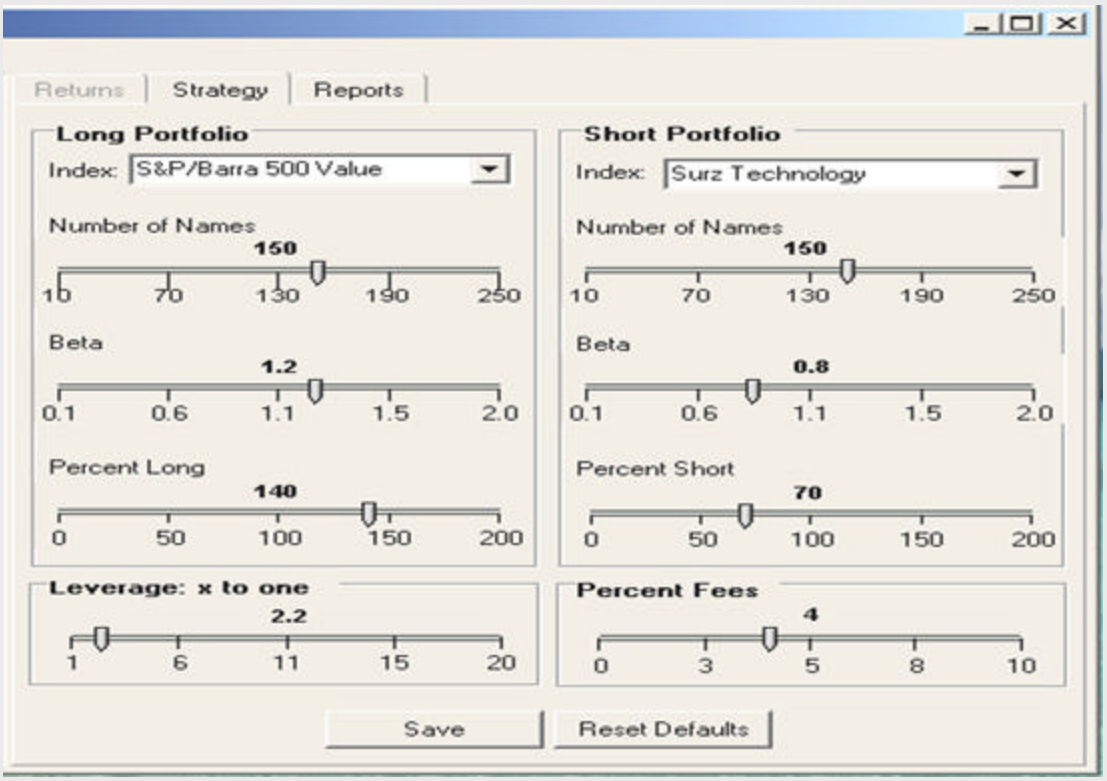
INTRODUCING MONTE CARLO SIMULATIONS TO EVALUATE HEDGE FUND INVESTMENT PERFORMANCE..CONTD

domly create 10,000 portfolios that conform to the same portfolio construction parameters followed by the actual hedge fund manager. The result is a scientific and unbiased backdrop for evaluating that manager's performance.

A MARKET-NEUTRAL EXAMPLE

Now let's see how Monte Carlo simulations work in practice, using market neutral as an example. Big differences exist among the various flavors of market-neutral, and performance results reflect these differences. To illustrate this point, we'll use three market-neutral sub-strategies as examples. All three are dollar-neutral as well as beta-neutral, but they vary in their style neutrality. One is style-neutral, one is long value and short growth, and the third is long growth and short value. The following Monte Carlo simulations show the dramatic differences in the opportunities available to these three sub-strategies over the five years ended June 30, 2004, even though all three are properly designated as market-neutral. We also show a traditional peer group for comparison.

Exhibit 1: Defining the Hedge Fund



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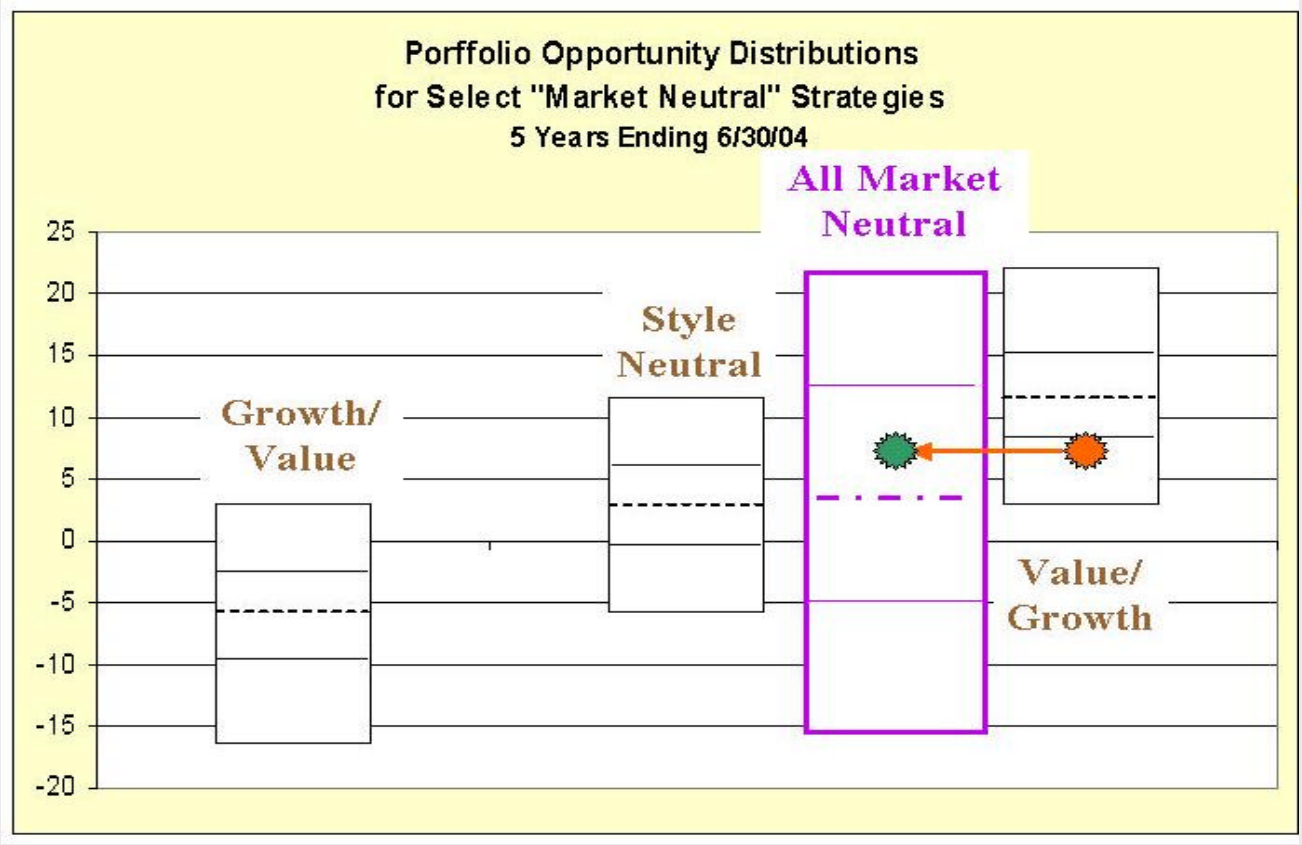
As you can see in the exhibit, a candidate for inclusion in a portfolio has delivered above-median performance when contrasted with the traditional non-customized peer group of all market-neutral managers, making him an apparently viable candidate. However, when viewed with MCS technology, this same performance ranks in the bottom quartile of the candidate's long value/short growth sub-strategy. Without the insights provided by Monte Carlo simulations, even the most sophisticated investors, including fund-of-funds managers, can easily be led to mistake strategic dominance for skill.

SUMMARY

Monte Carlo simulations take the guesswork out of performance evaluation by comparing what actually happened to what could have happened. Sure, peer groups are used by just about everybody, and there's comfort in being part of the herd. But smoking was also common practice not too long ago, demonstrating that popularity is not synonymous with good judgment. Monte Carlo may sound like gambling but it actually takes risk off the table.

Exhibit 2: The Difference Customization Makes for Hedge Fund Evaluation



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CHOOSE

PROACTIVE
OVER
REACTIVE
RESPONSE

COMMODITY RISKS
BY
SAM TILLEY

Sam Tilley, Head of Research at London based Futures and Options broker, Sucden (UK) Limited, talks about the risks associated with commodity trading and how these may be mitigated through the use of futures and options.

WHAT IS RISK?

Understanding risk and in particular the nature of financial risk, is a key part of any investment trading strategy. So how do we define investment risk? In simple terms, it is the recognition by an investor of the potential that exists, of the actual return on capital being different to what is expected. This "potential" includes the possibility of losing some, or all of the original investment.

All investments carry a degree of risk. The question arises as to what are the benefits of riskier investments? A simple comparison between an investor putting money in an interest earning bank account, as oppose to investing in stock and shares provides the answer. Whilst the bank deposit is a more secure or "less risky" investment, the returns are limited. Whereas the potential returns of investing in the stock market are greater, but so are the downside risks. It therefore follows, that the rewards from a higher risk investment are greater than those from a low risk investment. The crucial element for an investor, is their assessment of their desired risk and return, in balancing their portfolio.

COMMODITIES RISK

Commodities have historically been perceived as a high risk investment compared to stocks or bonds. However, a recent study on commodities by two Yale graduates provided a different perspective.

In this study, the performance of an index of equally weighted commodity futures, a corporate bond index and the S&P 500 index, showed that over the last 43 years, the average annualized return to a collateralized investment in commodity futures, has been comparable to the return of the S&P 500. Both in turn outperformed bonds despite demonstrating greater volatility.

However, when thinking about commodity investing and the associated risks, there needs to be a recognition of the many variables, such as climatic conditions, that may affect both the price and fundamentals of commodities. Once these have been considered, futures and options provide a useful tool and means of managing risk when trading commodities.

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COMMODITIES AND WEAT HER

Almost all commodities are affected by the weather, which can drive up or dampen demand, lead to a loss of crops, or hinder the transportation of goods. For example, the price of energy products are driven by the weather, with cold weather in the winter raising the price of fuel oil; to hot weather in the summer raising the price of petrol as consumers take to the roads.

The weather as you would expect is vital for all crops. Good weather conditions lead to bumper yields and an increase in stocks and often resulting in a fall in prices, conversely, bad weather may devastate a harvest leading to a rise in prices. US corn is a good recent example. In 2004, corn growing conditions were almost perfect across the United States, leading to an average yield of just over 160 bushels an acre (against a trend line yield of 145 bushels an acre) on just over 80 million acres.

Chart: Orange Juice in 2004 before and after a hurricane hit the Florida crop

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This led to a crop of approximately 12 billion bushels and resulted in the price of corn falling from over $3 per bushel at the start of the year, to under $2 per bushel by October of the same year, a fall of over 33%. However, in 2005, despite a larger acreage, drought in the corn growing regions of the US and concerns over stock levels, led to yields falling to 140 bushels per acre and consequently led the price to surge to higher. Often, in most commodity markets, even the possibility of poor weather can be enough to drive prices higher, leading to a highly volatile market, with prices rebounding when the fears prove to be unfounded.

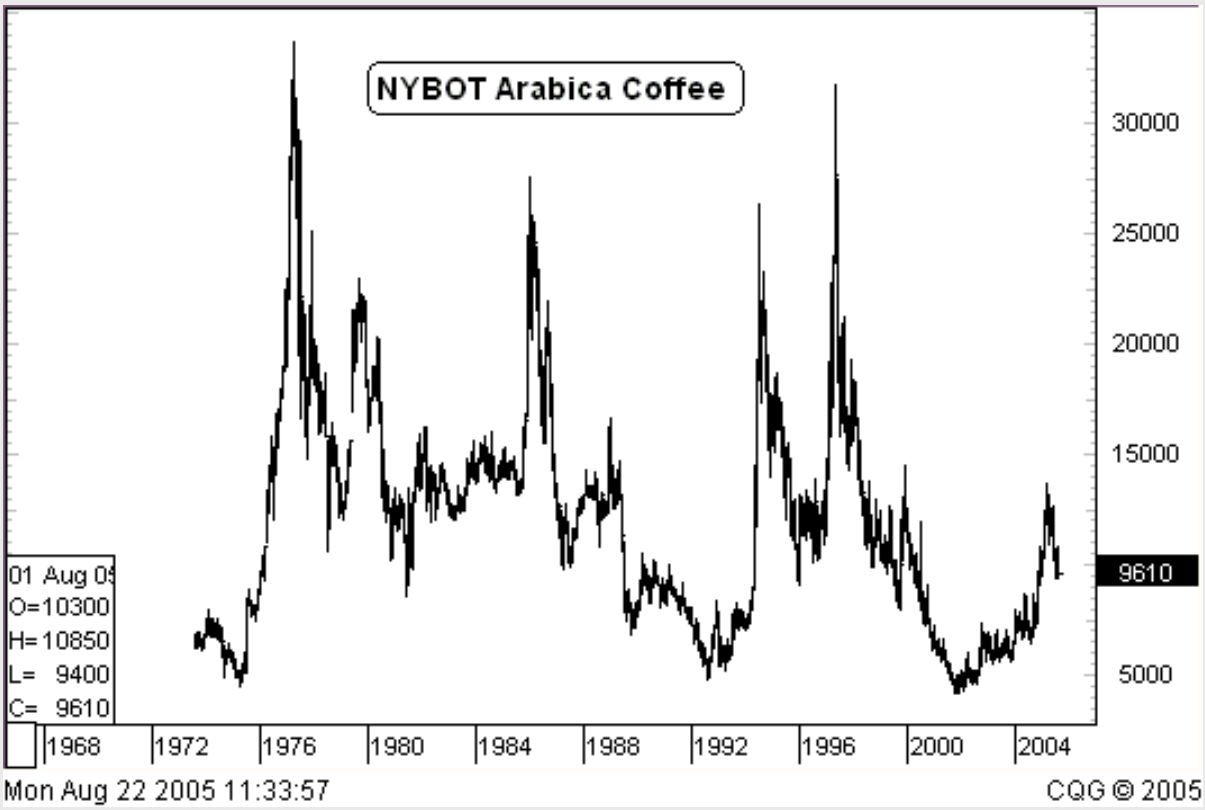

Chart: New York Arabica Coffee

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COMMODITY RISKS..CONTD

Extreme weather events can also affect the price of commodities. In 2004, several hurricanes hit Florida, ripping oranges from the trees and the price of FCOJ (Frozen Concentrated Orange Juice) surged. However, such extreme events also have varying effects on the prices of different commodities. For example, when a hurricane in the Gulf of Mexico hit land earlier this year, it was feared that it would affect the cotton growing farms around the Gulf, thereby increasing the price of cotton. However, it also had the effect of sending rain up to the US mid-west, relieving drought stricken corn and soybean crops. Hurricanes in the Gulf of Mexico are also often responsible for slowing the import of oil into the US, as oil rigs are evacuated and oil tankers are prevented from unloading their cargoes, leading to slower production and imports of crude and oil products.

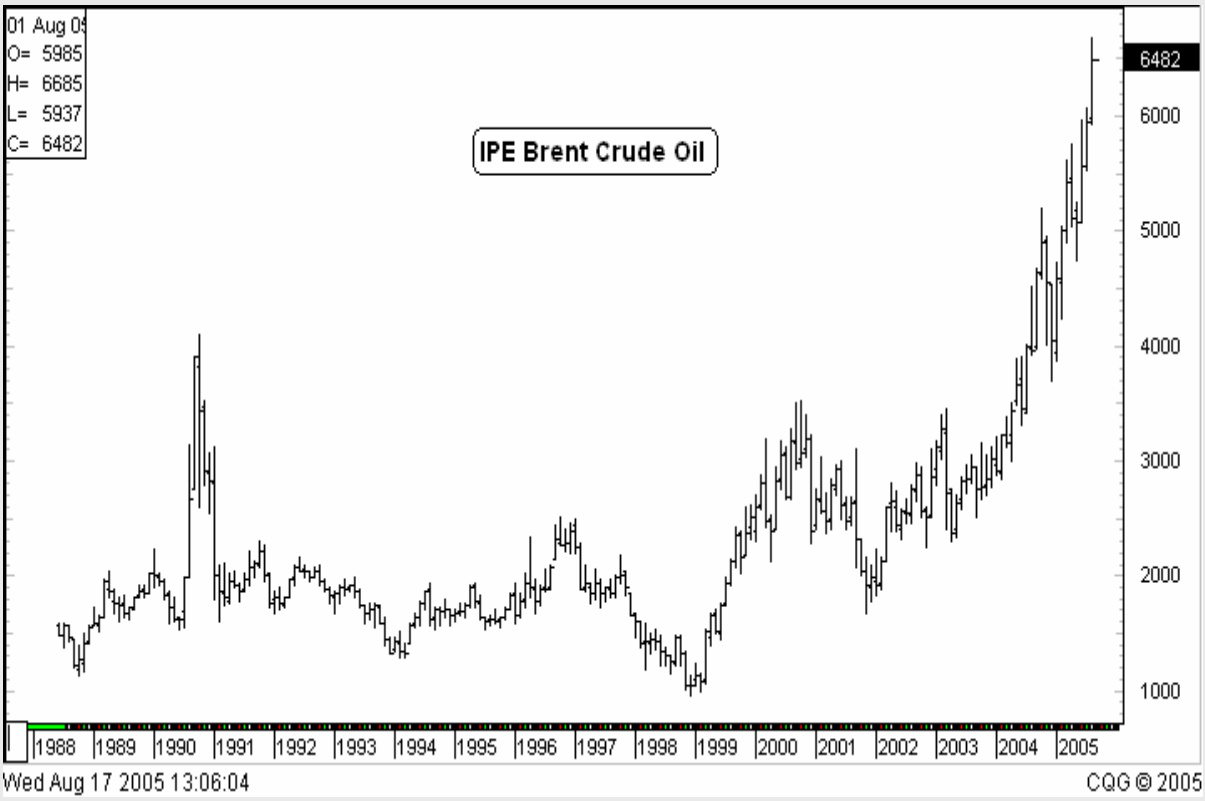

Chart: IPE Brent Crude Oil over the last 18 years

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COMMODITY RISKS..CONTD

Elsewhere in the world, poor weather in the Ivory Coast is often responsible for cocoa not getting to ports, whilst a recent drought in Vietnam affected the production of Robusta coffee. Arabica coffee is one such crop that the nature of the weather can lead to high volatility and massive spikes in price. News of frost in Brazil echoes around the world in minutes and even the hint of such conditions may lead to a massive jump in prices due to fears of a worldwide shortage. Brazil is the largest producer of arabica coffee in the world, and because a frost can reduce or annihilate much of the world supply in the matter of a day it is understandable why the market can be affected. While much of Brazilian production has been moved out of the frost areas, and technology has also helped to reduce the damage of future frost, it remains enough of a concern that often even the threat of a frost will raise prices and increase volatilities.

Chart: LME Copper

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As can be seen in the chart below, frost has caused a sharp spike in prices over the last 30 years. Whilst these spikes in coffee prices are short-lived, they can, prices can still more than double in a matter of months. To address such concerns, a risk management strategy is needed. Call option buying around the frost season (June – August), will not only reimburse coffee farmers if frost destroys much of the crop, but can also be used by coffee buyers to hedge against a spike in prices.

Climatic factors therefore have a major impact on the price of a commodity and must be taken into account when a trading position is taken. This is especially true in today's global economy, where the price at which farmers wish to sell wheat crops in the UK will be affected by the condition of the wheat crop in the US, and/or whether a drought in Australia has affected crop production.

All of these factors identify the need for an effective risk management tool. Futures and options provide such a mechanism. For example, a corn farmer anticipating good weather can sell futures to benefit from any increase in yield and thus a drop in price, enabling him to gain not only from the high yield, but also a fixed price. Futures and options are also often used by the end-user of the crop. A buyer of wheat may be happy with the current low price, but may not require a delivery until 6-months later. Using futures, the buyer can buy wheat for delivery in 6-months time, hedging himself against any rise in prices thereby ensuring that his purchase price is fixed.

COMMODITIES AND WORLD PRICE INSTABILITY

Commodities often have a level of correlation with each other, some in obvious ways but others less so, and consequently when we are looking to analyze the fundamentals of a market we must examine the broader picture. This is especially true of the current global economy where barriers to trade have been reduced.

Several commodities are highly correlated with each other, such as corn, wheat and soybeans. This means that an increase in the price of corn may lead to an increase in the price of wheat and soybeans, which often act as substitutes. However, there are also other, less obvious and weaker correlations such as the relationship between cotton and the price of oil. This is because cotton competes with polyester in producing clothing, and because polyester is made from oil, the movement of its price can have an effect on the cost of cotton.

An example of a new commodity price relationship that has recently developed is that of sugar and crude oil. After years of crude oil trading between $14 and $26 per barrel leading to a lack of exploration for new oil fields and a lack of new refining capacity, the price of oil has shot higher as production has struggled to keep up with demand growth. This has prompted an increase in demand for alternative energy sources, with ethanol in particu

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lar proving itself to be a viable alternative. Previously these had no discernible correlation, however, the recent surge in price of crude oil has spurred investment and production of ethanol to new highs as demand has risen. Brazil has been the global leader in the production of ethanol from sugarcane for years, and most cars in the South American country currently run on pure ethanol or gasohol (a mix of gasoline and ethanol).

Moreover, It has been speculated that by the end of the year, Brazil may convert over 50% of its sugar production into ethanol, reducing the quantity available to be exported as a sweetener onto the world market. The current crude oil price above $60 has driven up the demand for ethanol, not only in Brazil, but around the world because not only is ethanol currently cheaper than gasoline, but in a post Kyoto World, it is favored for being less damaging to the environment. This new relationship looks set to continue as long as crude oil prices remain high, thereby driving up the price of sugar as demand increases around the world, despite a projected increase in the supply of sugar cane.

Ethanol is also increasingly being made from corn in the US. This is seen as a way of reducing the US's reliance on foreign oil and oil derivatives, improving the environmental characteristics of gasoline, as well as generating jobs in the corn growing areas of middle America. Manufactured cars are already capable of using up to 10% ethanol and as Americans become more conscious of what and how much they put in their tank, demand looks set to soar. In 2004, the US produced over 3.4 billion gallons of ethanol consuming about 1.2 billion bushels of corn, however the House of Representatives recently passed a bill to boost annual use of renewable fuels to 7.5 billion gallons of ethanol by 2012. This would double the amount of corn used and will put pressure on supplies currently used for livestock feed.

This highlights how relationships between different commodities can change over time and how important it is for any investor in commodities not only be aware of what relationships already exist, but also be aware of any potential changes in the future. The price of oil can be seen to have a direct effect on a number of commodities including sugar, cotton, corn, rubber and plastics, which either compete with oil products, or are made from crude oil, however it also has an indirect effect of increasing the cost of production for commodities such as base metals and impacting freight costs.

Another major factor for the rise in the demand for oil has been the growth of the world economy, and in particular the emergence of China as a key market. China's economic growth has surged in recent years, leading to a massive investment in infrastructure and a ramping up in the demand for commodities. This has had a particular impact on the demand for base metals, as building projects have increased coupled with a drawdown on stocks.

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LME copper for example, has risen from a low of $1,334 per tonne in November 2001, to a high of $3,672 earlier this month, on the basis of dwindling stocks and high demand; a rise of over 175%. Much of this may be attributed to higher demand and a failure by mining companies to increase production to match this rise in prices. Prices have now risen to a level to both curb demand and to increase investment in mining, which may lead to a rise in output in the latter part of 2005 and early 2006. If demand eases, this will lead to a fall in prices as stocks rebuild, however, the increased demand and worries over future capacity constraints may prevent prices from falling to the lows of 2002 in the short term.

COMMODITY PRICES AND SUBSTITUTES

Commodity prices may also be affected by the price of substitutes. For example, if coffee becomes too expensive, consumers may instead switch to tea; or an increase in the price of soybeans, may impact substitute crops such as corn or canola. Even fads such as new dietary programmes, such as seen recently with the Atkins Diet, have had an effect on the price of wheat as consumers purchase less bread, and so led to a fall in price.

These factors all increase the risk in investing in commodities. It requires any effective trader to look at the wider picture and how these variables may impact the commodity or commodities that they are interested in.

THE IMPACT OF GLOBALIZATION

Globalization is a term used to describe the changes in society and the world economy as a result of dramatically increased international trade and cultural exchange. Increased international trade has come about through the lowering of freight costs and the removal of barriers to the movement of goods. This has led to increasing specialization amongst nations with many focusing on the production of one or two major commodities. Examples include, coffee and sugar in Brazil, and cocoa in Ivory Coast and Ghana.

These developments have led to increasing demands for the suspension of farm subsidies, particularly in the US and Europe. However, without these subsidies many farmers in the developed world will be unable to compete with the low cost producers in developing nations. This is not favored by many countries who would prefer to retain a level of self sufficiency and not be totally reliant on imports. There are also other undesirable outcomes of such a policy, including political unrest and socio/economic implications of unemployment.

Increased globalization carries very real risks for a strategy of investing in commodities. A change in policy by one country may affect the price of commodities elsewhere. For example, recent cases of BSE in the US meant reduced exports of cattle, which led to lower prices. A ban on genetically modified (GMO) corn by several coun

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COMMODITY RISKS..CONTD

tries has limited the export of US corn and a case brought by Brazil to the World Trade Organization (WTO) to remove tariffs on Orange Juice into the US has the potential to significantly affect the price of FCOJ. As a result, any investor looking to invest in commodities has to be aware of not only the regional factors affecting prices, but also global issues.

ENERGY COMMODITIES RISK

The price of crude oil has surged in 2004/05, with IPE Brent rising 35% in 2004 from $29 to $40 and rising an astonishing 66% so far in 2005 to a peak of just over $66. The price of energy has a profound impact on the world, more so than any other commodity because of the reliance on it for our power and locomotion needs. The high price of oil, not only raises the cost of fuel such as diesel and gasoline, but it also increases the price of every derivative product made from crude oil including aviation fuel, bitumen, plastics, rubber, heating oil as well as impacting the cost of electricity and gas. This broad range of related products, means a rise in oil prices raises costs to businesses in raw materials and transportation costs, and also increases the cost of fuel to the average consumer.

A rise in oil prices also carries inflationary implications, which under a monetarist agenda can lead to an increase in interest rates to keep inflation in check, thereby raising borrowing costs and reducing growth. It also as a negative effect on consumer spending, which constitutes a large proportion of the GDP in many developed economies, in particular the US, where it accounts for around 70%.

The recent surge in oil prices has raised business costs, reduced profitability and has highlighted the benefits of having a risk management strategy in place This is best illustrated by a comparison between British Airways, who sought to hedge much of its oil exposure and recently reported record 1st quarter figures, with that of several US airlines, that did not hedge and have recently been flirting with bankruptcy, citing high fuel costs. Many companies do not hedge against the rise in oil prices resulting in them bearing the full impact of any rise in price. By hedging a company's oil requirement, it is possible for a firm to fix costs and price their products accordingly. For example, if a haulage company knows what its fuel requirement will be over the next 6-months, by hedging their fuel requirement using futures or options, the company can price its haulage accordingly. A lower risk option of hedging oil costs can be through the use of options. However, in most cases a company has to make a conscious decision about whether they are going to be an active hedger or not.

One major reason as to why producers and consumers are often adverse towards hedging is the need for a healthy cash flow in order to finance margin calls, as a prerequisite of taking of forward positions. The margin call is the difference between the original futures price, when the position was opened, and the revalued price some time later. As such, should the futures market move in the opposite direction to the hedge, then holders of fu

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COMMODITY RISKS..CONTD

tures positions will be required to top up the funds they have deposited with their broker, in order to meet the margin call. Since these calls can often be significant, it may lead to a major strain on the company's cash flow.

COMMODITIES TRADING AND OPTIONS

Options on commodity futures are used for a variety of purposes but are often used as a way of reducing the risk of taking a position. For example, a coffee trader perceives there is a chance of a frost in Brazil, which would damage the beans and lead to a sharp surge higher in prices. Instead of buying futures and risking the price falling in the event of good weather, an investor can instead choose to buy an *'out of the money call*' option, risking the premium paid for a significant upside in the event that a frost hits the market. However, if a frost fails to materialize, instead of losing money when the future price drops lower, the most that the trader can lose is the option premium.

Options may also be used to hedge a position, thereby allowing the trader to take advantage of a rise (or fall) in prices. For example, normally a crude importer into the US will buy physical crude and hedge it by selling futures to lock in a price. If, by the time he sells the oil the price has fallen, what he will make on the futures will offset what he will lose on the physical. But by using options an importer could instead buy *'in-the-money puts*' to hedge against a loss in price. However, if the price rises by the time he sells the crude he will profit by the difference between the purchase price and the selling price, minus the premium of the put option.

The disadvantage of purchasing options is that time value erodes as the contract gets closer to expiry. A trader can seek to benefit from the erosion of time value by writing options, but this is a higher risk trade, because it leaves the holder of the position exposed if the market moves against them.

One of the major benefits of options is the flexibility that they afford someone trading commodities. It is possible to combine them with futures, or other options to take advantage of different projections of the market. For example, a trader who feels that volatility in coffee will decline as the frost season comes to an end, but also believes that prices may not move very much, can seek to sell volatility. They may do this by selling a call and a put and receiving the time value. This is called a straddle. It is this flexibility, allowing a trader different options on making a profit on market direction in the short term, or long term; or taking a view on option volatility, which makes trading options a popular tool to use when trading commodities.

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FUTURES AND OPTIONS AND THE RISKS OF TRADING

There are many risks when assessing the use of futures and options in the commodity market some obvious, and others which need to be assessed when taking a position in the market.

The emergence of hedge funds in commodity markets over the last 10 years, with billions of dollars under management, has led to larger than expected movements than the fundamentals would otherwise dictate. In some cases, a commodity price may move higher or lower due to buy or sell "signals" from funds, often leading to an exaggeration of market movement, causing greater volatility. The effect of this is that it can be more expensive to trade in the market through higher option volatilities. The position of funds can be tracked, amongst other ways, by looking at the Commitment of Traders report. This allows a trader to obtain a better idea of where the hedge funds are putting their money, as well an insight into their existing positions.

Commodity trading has had a reputation for being a highly risky endeavor. As the old line goes, *"the best way to make a small fortune trading commodities is to start with a big one."* However, commodity trading is only as risky as the individual is prepared to be. Unlike stocks it is possible to gear up on the available money. This means not only higher rewards, but also higher risk if the market goes against you.

For example, if an investor has $100,000 and decides to invest in stock at $2 a share they will receive 50,000 shares. If the stock moves up by 20c to $2.20 the value of the stock is $110,000 giving the investor a $10,000 profit. If the stock moves 20c lower the value of the stock is $90,000, giving the investor a $10,000 loss.

However in commodities because of gearing, an investor would be able to purchase $100,000 of corn (assuming that initial margin is 10%) for just $10,000. If corn is $2 per bushel, this means that an investor can purchase up to 10 lots (5,000 bushels in a contract). A rise in the price of corn to $2.20 would mean a profit of $10,000, a 100% return on the original investment of $10,000. However, a fall to $2.20 would lead to the original investment being wiped out, and a failure to close out the position before it continues to fall could lead to heavier losses. This then leaves the level of risk in the hands of the investor. It is still possible for the investor to purchase just 1 or 2 lots of corn, depending upon their risk appetite.

Managing this risk is very important, because it is easy for a trader to get carried away with potential of quick profits, forgetting their original risk parameters. Risk is also different on the downside to the upside. Unlike a share in a company, the price of a commodity future cannot (in theory) go to zero, because there is always a level at which the price becomes cheap enough so that the buyers outweigh the sellers. However, because there is theoretically no absolute ceiling on how high the price will go, a trader with a short position has unlimited risk.

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In theory, a trader can offset his position to limit his loss if a trade is going against him, and while a prudent trader will always have a plan to limit his losses when trades don't work, it is not possible to limit a particular loss, especially if a commodity moves violently against him. It is only by applying prudent management techniques that these risks may be minimized.

COMMODITIES AND MARKET RISKS

Market risk is the risk of loss arising from movements in market variables, including observable variables such as interest rates, exchange rates and equity markets, as well as other risks which may not be observed directly such as volatility and correlation.

Market risks are difficult to manage, but must be taken into account when trading in commodities because of the level of impact that they can have on the price. For example, in today's global economy the movement of exchange rates can have a direct impact on the amount of commodities imported or exported by a country. The recent revaluation of the Chinese Yuan, removing it from its fixed peg to the dollar and allowing it to trade against a basket of major currencies, has for led to the Yuan strengthening. A stronger Yuan makes imported commodities cheaper to China, allowing them to import more raw materials, but also makes their exports more expensive.

Interest rates are also important, as they affect where money is allocated in the market. High interest rates make yield-bearing assets such as bonds and cash instruments more desirable. Low interest rates leads to investors looking around for alternative investments such as commodities to improve their returns.

Equities and commodities have been shown to have an inverse relationship. A bull trend in equities often coincides with a bear trend in commodities and visa versa. This is because in a bear trend, investors such as funds or high net worth individuals, look for alternative destinations for their money and many end up putting their money into commodities. The opposite happens when the returns on equities start to outperform those of commodities, leading to investors pulling their money out and reallocating it the stock market. This movement, and in particular when it is larger size funds moving the funds around, has the potential to move commodities prices and affect liquidity.

So is commodities trading for you? It certainly has a level of risk attached to it in the same way as any investment does. However, with the prudent use of futures and options and an analysis of the underlying fundamentals, the returns may be very rewarding. As a first step after establishing your risk appetite, there is a need to seek professional advice from those who have knowledge of the commodities market. These expert brokers provide the market intelligence and experience which can help you both to avoid the potential pitfalls and develop a prudent trading strategy in managing the risk in your portfolio.

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RISK MANAGEMENT IS FUNDAMENTAL TO THE SUCCESS

COMMODITIES, MARKET RISKS AND HEDGING
BY
ZACHARY OXMAN

Welcome! This article will attempt to outline some of the basic risks and controls of using the commodities markets to trade and diversify within your personal portfolio. First, a little about the basics of the commodities markets:

WHAT IS A COMMODITY?

A commodity is an article of commerce which is produced, sold, bought and consumed. Worldwide there are commodity exchanges (both regulated and un-regulated markets), where they are traded between buyers and sellers. The major exchanges in the US are all federally regulated. There are 4 characteristics of a commodity.

- The product is generic - the same from seller to seller.
- Shoppers buy on price, not quality.
- The product is sold by many competing sellers.

The product's price is determined by market supply and demand.

WHAT ARE THE COMMODITIES THAT ARE TRADED IN REGULATED MARKETS?

- Grain: Corn, wheat, soybeans, oats soymeal, soyoil.
- Livestock and Meat: Hogs, cattle, feeder cattle, pork bellies.
- Metals: Gold, silver, copper, platinum, palladium.
- Food and Fiber: Coffee, cocoa, sugar, orange juice, cotton.
- Energy: Crude oil, heating oil, gasoline, natural gas.
- Finance: Stocks, bonds, currency.

THREE COMMON TYPES OF MARKETS ARE:

- Spot Markets: Direct purchases for immediate consumption.
- Futures and Forward Markets: Agreements to pay now and receive/deliver later.

  Forwards and futures reduce the risks by allowing the trader to decide a price today for goods to be delivered in the future.
- Derivatives Market: Purely financial transactions based on physical trading.

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WHO IS A COMMODITY T RADER?

Any person who trades in commodities out of interest or to make money is a community trader. Since this is a speculative market, the person must be willing to take risks. A commodity trader should also be prepared to suffer losses.

WHAT ARE THE ADVANTAGES OF TRADING IN THE COMMODITY MARKET?

Shifting demand and supply make the prices of commodities fluctuate on a daily basis. Herein lies the opportunity to make big money - if the trader can anticipate the market movements properly. Experience of course plays a big role in this. There can even be major shifts in supply and demand, influencing the market trends for longer durations - weeks, months and even years. Thus doing it right has big dividends. However, trading is not without risks as even many experienced hands have suffered huge blows.

FUTURES CONTRACT - WHAT IS IT?

A commodity futures contract is an agreement to either deliver or accept delivery of a specified commodity at a specified price, quantity and grade. The contract calls for delivery at a future date and designated location. The value of the contract is determined by the price and quantity of the underlying commodity.

WHAT ARE SOME UNIQUE RISKS OF TRADING COMMODITIES?

Leverage

Leverage refers to the practice of applying small amounts of margin capital to purchase or control larger blocks of an asset for the purpose of magnifying the potential return on investment.

Traditional investors are accustomed to thinking of margin as an interest-bearing loan from their brokerage firm. In the futures industry, margin is not a loan but a cash deposit--a good faith bond whereby the customer places on deposit the required cash to indicate a willingness and ability to perform on the futures contract in the event that the position is not offset. Unlike stock margin accounts, future's margin is not subject to interest charges.

THE MATHEMATICS OF LEVERAGE

As a futures contract rises or falls, the unit price of movement is amplified by the degree of leverage inherent in the contract. Investors must remember, leverage is a double-edge sword. Losses can also be amplified to the same degree as gains. As leverage is increased so is risk. The same price movement in the opposite direction

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would produce a comparable loss. Therefore it is critical that alternative investors understand risk, before implementing a futures trading strategy

HEDGING USING COMMODITIES

Columbia dictionary defines hedging as a method by which traders use two counterbalancing investment strategies so as to minimize any losses caused by price fluctuations. It is generally used by traders on the commodities market. Typically, hedging involves a trader contracting to buy or sell one particular good at the time of the contract and also to buy or sell the same (or similar) commodity at a later date. In a simple example, a miller may buy wheat that is to be converted into flour. At the same time, the miller will contract to sell an equal amount of wheat, which the miller does not presently own, to another trader. The miller agrees to deliver the second lot of wheat at the time the flour is ready for market and at the price current at the time of the agreement. If the price of wheat declines during the period between the miller's purchase of the grain and the flour's entrance onto the market, there will also be a resulting drop in the price of flour. That loss must be sustained by the miller. However, since the miller has a contract to sell wheat at the older, higher price, the miller makes up for this loss on the flour sale by the gain on the wheat sale. Hedging is also employed by stock and bond traders, export-import traders, and some manufacturers.

COMMODITIES AND TRADING OPTIONS

The commodity options market is simply a market in which producers may purchase the opportunity to sell or buy a commodity at a certain price. Just as a farmer may purchase the right from an insurance firm to collect on a policy in case his buildings burn, he can purchase the right to sell his commodities at a specific price if market prices go below the specified price. A separate market exists to purchase the right to buy commodities at a specified price of market prices are higher than the specified price. So, there are really two separate commodity options - one to insure products being sold against price declines, and another to insure products purchased against price increases.

Purchasers in these options markets have the "opportunity" but not the "obligation" to exercise their agreement. Therefore, the markets are appropriately named "option markets" since they deal in an option, not an obligation. For instance, ff one desired to buy the right to sell corn for $3.00 per bushel, the commodity options market provides the opportunity. By paying the market determined premium, one could then collect on the option if prices are below $3.00 per bushel when the corn would actually be sold. If prices are higher than $3.00 per bushel, the corn could be sold for the higher price and the cost of the premium is absorbed.

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As mentioned, there are actually two basic types of commodity options: a **call option and a put option.** The call option gives the holder the right, but not the obligation, to **buy** the underlying commodity from the option writer at a specified price on or before the option's expiration date. The put option gives the holder the right, but not the obligation, to **sell** the underlying commodity to the option writer at a specified price on or before the option's expiration date. The call option and the put option are two distinct contracts. A put option is **not** the opposite side of a call option. It may be helpful in distinguishing between the two types of options by using the following "memory trick." The holder of the put option can choose to "put-it-to-em," that is, sell the product while the holder of the call option can "call-upon-em" to provide the product.

Commodities and Weather

Since we are discussing a basic raw material that is produces, procured and mined from the earth, weather plays a large role in the global price action of the commodities markets. It is estimated that nearly 20 percent of the U.S. economy is directly affected by the weather. As a result, the earnings of businesses can be adversely impacted by summers that are hotter than normal or winters that are much colder than anticipated. Conversely, revenues of power providers and utilities can suffer from either balmy summers with less need for air conditioning or mild winters with less heating demand from consumers.

CME® created a weather derivative market which enables those businesses that could be adversely affected by unanticipated temperature swings, to transfer this risk. Just as professionals regularly use futures and options to hedge their risk in interest rates, equities and foreign exchange, now there are tools available for the management of risk from extreme movements of temperature. This sector of hedging and risk management products represents today's fastest growing derivative market. You can trade weather futures in the following styles:

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CME European Monthly Weather CAT
CME European Seasonal Weather CAT
CME Asia-Pacific Monthly Weather
CME Asia-Pacific Seasonal Weather

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COMMODITIES AND WORLD PRICE INSTABILITY

Exposure to commodity price volatility continues to bedevil many developing countries and economies in transition. Commodity price volatility affects state budgets and company cash flows and makes future revenues less predictable. Countries in the process of liberalization expose domestic market participants to international price volatility. Many governments internalized this external price volatility in the past. But with market liberalization, domestic market participants need to be able to apply market-driven hedging instruments to reduce their exposure. Several countries are establishing commodity markets for price discovery and hedging.

Research and practical experience in Bank projects have shown that risk management is crucial for the survival of a emerging private sector in commodity trade. Market liberalization reforms may be implemented before institutions or systems for price risk management are in place. Failure to address the need for risk management can endanger those reforms.

Most small institutions and businesses are too small to have access to risk management instruments. One solution to this problem is for local private intermediaries (large traders, exporters, local banks) or even the government to pool risk. Governments now tend to use market-based instruments to hedge the assumed risk rather than internalize it as they had done in the past (such as in Canada, Mexico, and the United States).

Links between risk management and trade finance are important because they can improve access to credit and lower its cost. Risk management tools can assure that the value of a crop used as collateral for a loan will not decline, thereby reducing the riskiness of the loan.

ENERGY COMMODITIES

The NYMEX (New York Mercantile Exchange) is the head exchange for energies trading.

The New York Mercantile Exchange, Inc., is the world's largest physical commodity futures exchange and the preeminent trading forum for energy and precious metals

The Exchange has stood for market integrity and price transparency throughout its 132-year history. Transactions executed on the Exchange avoid the risk of counterparty default because the Exchange clearinghouse acts as the counterparty to every trade. Trading is conducted through two divisions, the NYMEX Division, home to the energy, platinum, and palladium markets; and the COMEX Division, on which all other metals trade.

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The Exchange pioneered the development of energy futures and options contracts 26 years ago as means of bringing price transparency and risk management to this vital market

The Exchange plays a vibrant role in the commercial, civic, and cultural life of New York. It provides thousands of jobs in the financial services and allied industries and, through the New York Mercantile Exchange Charitable Foundation, supports cultural and social service programs in the downtown community as well as broader charitable endeavors in the metropolitan area

We invite you to explore our site and learn more about the Exchange, our markets, and other information of public interest

The wide array of trading markets provided by the Exchange include futures and options contracts for crude oil, gasoline, heating oil, natural gas, electricity, gold, silver, copper, aluminum, and platinum; futures contracts for coal, propane, and palladium; and options contracts on the price differentials between crude oil and gasoline, crude oil and heating oil, Brent and West Texas Intermediate crude oil, and various futures contract months (calendar spreads) for light, sweet crude; Brent crude; gasoline; heating oil; and natural gas.

The Exchange also lists e-miNY energy futures[sm], fractional light, sweet crude oil and natural gas futures contracts that offer smaller investors and traders the opportunity for an efficient means of participating in energy markets. The contracts trade via the Chicago Mercantile Exchange's GLOBEX® electronic trading system and clear through the New York Mercantile Exchange clearinghouse. e-miNY Futures

The Exchange also clears off-exchange trades for market participants who wish to avoid counterparty credit risk by using standardized contracts for natural gas, crude oil, refined products, and electricity

One of the most hot markets out there today is the Light Sweet Crude market. Not only is Crude the hottest commodity around, Crude oil is the world's most actively traded commodity, and the NYMEX Division light, sweet crude oil futures contract is the world's most liquid forum for crude oil trading, as well as the world's largest-volume futures contract trading on a physical commodity. Because of its excellent liquidity and price transparency, the contract is used as a principal international pricing benchmark. Additional risk management and trading opportunities are offered through options on the futures contract; calendar spread options; crack spread options on the pricing differential of heating oil futures and crude oil futures and gasoline futures and crude oil futures; and average price options.

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The contract trades in units of 1,000 barrels, and the delivery point is Cushing, Oklahoma, which is also accessible to the international spot markets via pipelines. The contract provides for delivery of several grades of domestic and internationally traded foreign crudes, and serves the diverse needs of the physical market.

You can also trade the Brent product through the NYMEX. Brent blend is a light, sweet North Sea crude oil that serves as a benchmark grade and widely trades as a differential to the New York Mercantile Exchange, Inc. bellwether light, sweet crude oil futures contract.

Brent blend production runs approximately 500,000 barrels a day. Most is refined in Northwest Europe, but significant volumes move to the U.S. Gulf and East Coasts and to the Mediterranean. Brent is shipped from Sullom Voe in the Shetland Islands. The producing companies trade most of the volume on a spot basis with virtually no formal term contracts.

To facilitate efficient, liquid, and cost-effective trading of Brent crude and the Brent/light, sweet crude futures spread, the New York Mercantile Exchange will provide a Brent crude oil futures contract. The contract will trade in the open outcry crude oil futures trading ring on the floor of the Exchange and after-hours on the NYMEX ACCESS® electronic trading system.

You can research more information through NYMEX.com including details on the many specific markets that are traded through the NYMEX.

ABOUT THE AUTHOR

Zachary Oxman

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With five years of experience in the commodities market and as a Senior Account Executive of Wisdom Financial, Inc., Zachary Oxman is dedicated to meeting and exceeding his client's needs. Through the use of mechanical trading systems and technical/fundamental analysis, Zachary provides a complete picture of the markets and how they can work in your personal portfolio. As a client of Zachary's, you are part of an elite group that benefits from his dedication to customer service, knowledge of the futures markets, prior experience in the high-technology industry and his exhilarating energy.

Zachary is a featured writer for FuturesKnowledge.com and has written for Future Source's fast break articles on a regular basis.

Zachary has a strong background in Finance. He graduated from the University of California, Riverside in 3 years on a personally accelerated educational path with a BS in Business Economics emphasizing in Finance and Econometrics. During his time at UC Riverside, Zachary was an active member of the Fraternity of Phi Gamma Delta. Zachary actively employs these skills to help his clients in a diverse manner of activities.
Zachary holds bi-monthly seminars in California and around the country discussing trading systems and their impact on your trading portfolio. He features a popular developer at each seminar, and looks forward to seeing YOU at a future event. Please contact him at the following email address or phone number for any questions regarding trading, systems management or reservations at a seminar near you!

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RISK MANAGEMENT MATTERS

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