

LIC DEVELOPMENT LLC

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May 7, 2008

Commodity Futures Trading Commission
Washington, DC

by US Postal Service and Email

Re: Agricultural Markets Roundtable April 22, 2008

Honorable Commissioners:

LIC Development LLC is in the business of developing liquidity for the world's financial liabilities. The firm brings together experts in risk transfer and experts in the valuation of illiquid positions, particularly in liabilities. We encourage the CFTC and other participants in the current system to consider an alternative to the current set of choices. Specifically, the system needs to supplement the existing futures exchanges and over-the-counter trading with a new system that minimizes counterparty risk without using margin accounts to do so. Such a system is practical if and only if several specific steps are taken by the CFTC and others.

My name is Oakley E. Van Slyke. I received a B. S. from the Massachusetts Institute of Technology (MIT) in 1970 and had a successful career as a consulting property-casualty actuary. I founded Capital Management TechnologySM in 1993. My research into competitive markets led me to start LIC Development LLC in 2000. Member-investors are CEO's and retired CEO's of reinsurance brokers and reinsurance companies; directors of reinsurance companies; and nationally recognized consultants to the insurance industry.

A NEW TRADING PARADIGM

We offer a new paradigm. The first paradigm was private contracts, now known as over-the-counter (OTC); OTC is characterized by custom-made contracts and high counterparty risk. The second paradigm is commodities futures exchanges; futures exchanges mitigate counterparty risk by requiring margin accounts and the related position limits and daily price change limits. The new paradigm achieves the same reduction of counterparty risk that has been the cornerstone of the commodity futures exchanges but does so without margin accounts or price change limits.

The proposed system relies on today's institutions but gives them new ways to succeed at their missions. Private businesses will have a new source of profitable growth. The CFTC and other agencies can be more effective, providing better price discovery and more complete opportunities for hedging.

Patent law exists to encourage inventors to disclose their inventions. Although the system is the subject of several pending patents, our purpose is to disclose the new system to you and your constituents so that we all may mitigate the problems facing your industry today.

CFTC'S EXPRESSED NEEDS

Commissioner Dunn said, "Certainly, there is concern that the markets are not performing their main functions of price discovery and mitigation of risk". Producers confront higher prices for fuel, petrochemicals and transportation, but they have less timely, accurate price data with which to deal with those higher prices. Illiquidity also interferes with clearing and with convergence. The practical arts of commodities trading are strained when the real world does not match with the assumptions that underlie margin accounts and the standardized contracts.

Commissioner Dunn also said, "Clearing houses must collect margin more frequently to insure their financial viability, but constant margin calls strain business relationships." Repeated margin calls are a real cost to producers who have hedged their future crop price. As Commissioner Sommers said, "Whatever the cause, it appears that increased futures price volatility and uncertainty about basis relationships has raised the cost of hedging."

The problems unique to the agricultural sector are made worse by similar problems in the markets for energy, plastics and transportation, as well as by the volatility of the dollar.

The temptation is to look for someone to blame. Index traders may be part of the problem. It has been alleged that traders at these funds don't really know the market; don't act independently; tend to base positions on past profits, and so are not as nimble to respond to new exogenous information as are real business interests. Large hedge funds move money in and out of entire industries, rather than across time within the farm commodities industry, so they hedge something different than the agricultural business wants to hedge.

However, presenters to the Roundtable showed evidence that synthetic prices help with price discovery when price changes are locked day after day. These synthetic prices are computed from the prices of options on futures contracts. Perhaps this degree of price discovery is in part due to the exponential increase in the volume of options and derivatives that Commissioner Chilton mentioned. Although speculators contribute to bubbles and crashes, the vast array of ways to speculate with options and derivatives should increase the diversity of speculators' assessments and shorten the duration of speculative bubbles.

We believe that, as Commissioner Chilton said in his oral remarks, there is something missing; something is off the CFTC's radar screen.

LIQUID CONTRACTS AND TRANSPARENT TRADERS

Both of the two current systems (OTC forward contracts and futures contracts with margin accounts) are self-sustaining. They meet the criteria identified by economists and summed up in Gerard Debreu's classic "The Theory of Value" (1959).

But they aren't the only self-sustaining trading systems that can exist. Market prices of actively traded financial positions, both assets and liabilities, can be kept transparent by restricting trading to funds that maintain completely transparent balance sheets. These funds, which we call "transparent traders", restrict their holdings to assets and liabilities that are actively traded. The futures contracts they hold, whether assets or liabilities (which is a function of the current market price), are all standardized contracts or registered securities. Additional description of how the system works is provided in Appendix 1. This third system is as self-sustaining as the other two once it has been created and set in motion.

This suggestion is startling. Yet, as Commissioner Dunn said, "... we can all take a broad overview of the market and come up with solutions that take into account the needs of all of the market participants." He also pointed out that there is no "silver bullet." Our plan is not a silver bullet. However, the problems would not be so world-wide and appear in so many sectors of the economy unless something is missing. The wheels of futures trading are rolling with a missing spoke. As the futures contracts exchanges have increased their load and their speed, it seems that their clients are shaken up. It's time to round out the wheels, not slow the speed of trading.

An asset is liquid if you can sell it for the market price. A liability is liquid if you can liquidate your position by paying a market price. The key to liquidity is *not* to regulate any prices, while nonetheless satisfying a long list of practical constraints. What constraints?

- The system maintains active trading in each contract worldwide and without interruption.
- The system effectively eliminates counterparty risk (the standard set by The Merc for nearly a century).
- The system makes publicly available the transparent balance sheet of each transparent trader, even as it protects from competitors each transparent trader's operating strategy and tactics.
- The system provides, at market prices, a surety guarantee for each contract and each transparent trader.
- By being highly automated and doing away with margin accounts and their demands, the system reduces transaction costs for commodities futures trading to cost levels typical of securities exchanges.

- By requiring transparent traders to be listed on securities exchanges, the system enables every investor—anyone who might own a share of stock—to buy a share of any transparent trader.

In sum, the system creates new opportunities for the private sector and makes the regulatory function of the exchange less obtrusive, while effectively eliminating counterparty risk, improving price discovery and lowering transaction costs.

LIFE UNDER THE NEW PARADIGM

With every contract being traded at an unregulated price worldwide without interruption, price discovery is inherent to the system.

Hedging, too, will be better. Under the system, some transparent traders will specialize in hedging specific business risks. Consider, for example, a wheat farmer who wants to lock in not only the price for the upcoming planting, but the prices of fuel and fertilizer as well. By holding a leveraged portfolio of wheat contracts and petrochemical contracts, a fund specializing in serving these farmers can be “just what the doctor ordered.” The farmer will invest in the shares of the transparent trader rather than deposit funds in a margin account. There will be no risk of further calls, and the natural operation of market forces will make the investment an even better hedge for the farmer.

Of course, the existing two systems, OTC and futures contracts exchanges with margin accounts, will still be essential. Indeed, they will be, in some sense, the “front door” for the transparent traders. The liquid contracts will be built out of the existing futures contracts in order to take advantage of the existing systems for clearing at the contract date. Although there will be less trading in each traditional contract (because of the costs), there will be a demand for an abundance of carefully designed standardized commodity futures contracts. Today’s experts will be the leaders in the future.

The design of liquid commodities contracts is just one of many ways that existing institutions will have a critical role in the proposed system.

Both the CFTC and the SEC will have their supervisory roles, enabling the new system while setting out the “rules of the road”. This is a markets-based, private capital solution, not a regulatory solution, so there won’t be many rules. But, however few in number, the rules will be essential. The CFTC and the SEC will detect and prosecute manipulation of these new markets. Federal and state agencies will set the moral culture in which this new system will operate.

The CME and/or other commodities exchanges will have a role setting up one or more exchanges for the “test” phase of the new system and operating these exchanges in the future. One or more securities exchanges will have a role setting up means of tracking the balance sheets of the transparent traders while trading a high volume of their shares.

At least one insurance regulator (state or federal) will have a role permitting the work of the surety guarantors. The state and federal tax agencies will have to sign off on the tax pass-through nature of the transparent traders (although the changes in value of transparent traders shares will be taxable at some point). At a minimum, this can simply be to classify the traders as closed-end funds, which today have the desired tax status.

Investment banks will work with today's experts in farm commodity futures to create the new transparent traders and the management companies that make the decisions for those funds. This is where existing farm commodity futures expertise has a big role.

The investment banks will also work with today's financial guarantee companies, surety companies and appropriate agencies to create the new surety guarantors.

Investors such as pension funds will invest in the new asset class. Large institutional investors will shape the missions of the new transparent traders by investing in those traders whose portfolios improve the investor's portfolio metrics and divesting from those traders whose portfolios fail to benefit the investors. Because the new assets are true securities, the portfolio management technologies developed for securities can be applied to the range of activities of the new contracts trading system.

There are bonuses to the existing institutions. LIC Development LLC devised this trading system originally to enable trading in insurance liabilities – a much harder problem than agricultural commodities trading. The work of the existing institutions to create a system of liquid contracts for farm commodities will put those institutions in an advantageous position for the development of commercial insurance products for natural perils such as wind, freezing, flood, fire and disease. The substantial segment of the U.S. insurance industry dedicated to serving the farmer could be enlisted in this effort. The liquid contract system will provide liquidity for insurance liabilities of all kinds. Specifically, the system will enable the private sector to relieve the Federal government of the burdens of the Federal crop insurance and flood insurance programs.

HOW LIC DEVELOPMENT LLC CAN HELP

As the originator and thought leader of this new field, LIC Development LLC requests the opportunity to meet with the CFTC to provide a more complete description of the proposed trading system and to explore business relationships with the private sector participants.

Please contact me at 949.233.7981 or at leevanslyke@licdevelopmentllc.com to learn more and to set up a meeting.

Acting Chairman Lukken framed the current problems by saying, "Protecting the integrity of these markets, as well as the public that relies on the accuracy of their prices, lies at the heart of the CFTC's core mission." Protecting the existing markets

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and the public that they serve requires adding a third system to the present mix. Fortunately, the missing system relies more on free markets, not less, providing opportunities for both entrepreneurs and existing private institutions.

Thank you for your interest in finding a change that helps everyone.

Sincerely yours,

Oakley E. Van Slyke

President

Appendices

Description of the System for Trading Contracts without Margin Accounts, Position Limits or Price Change Limits

Biographical Information about the Investors in LIC Development LLC

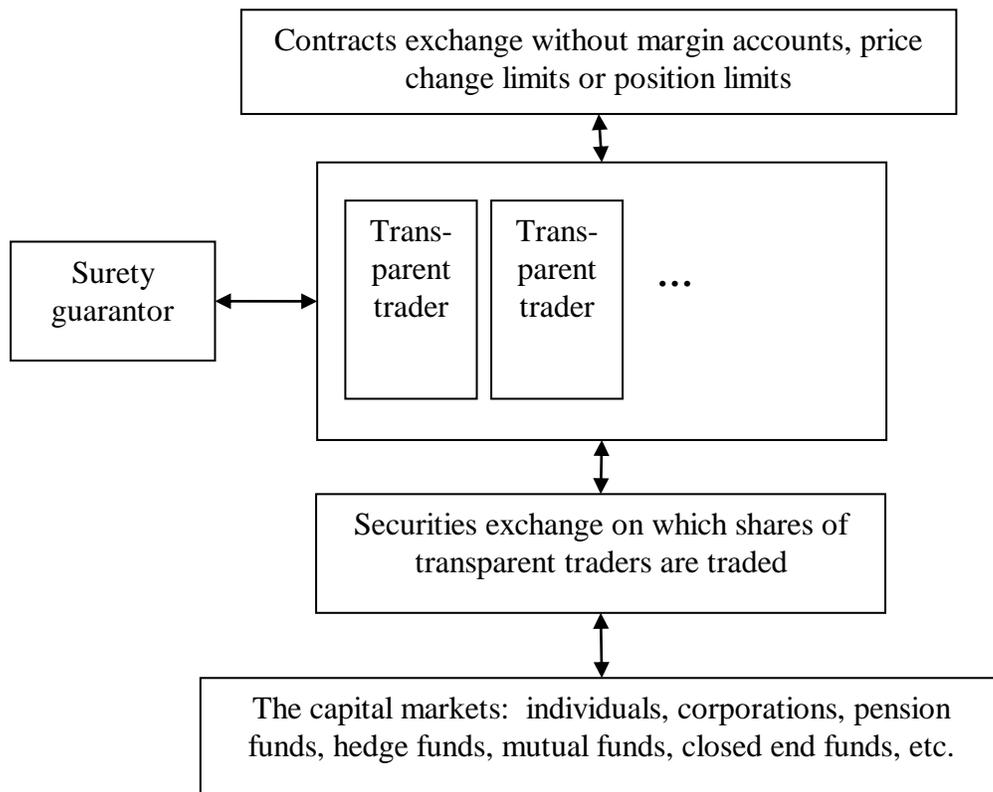
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Figure 1 is a diagram of the proposed method of using market prices to eliminate the need for margin accounts, trading limits and position limits for individual traders.

Figure 1 also shows clearly that the proposed method provides a good asset class suitable for investment by the capital markets even though it does not rely on the risk management measures of margin accounts, daily trading limits and position limits.

Figure 1. Trading System without Collateral or Margin Accounts



Discussion of Figure 1

The term “contracts exchange” refers to a trading floor that trades contracts other than securities. The prices of such tradable contracts may be positive, negative, or varying from positive to negative. In Figure 1, the contracts exchange is a special one—one that operates without margin accounts, price change limits or position limits.

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The term “securities exchange” refers to any trading apparatus that trades securities. Securities provide a unilateral right to an investor without imposing any liability. Investors do not pose a counterparty risk to a securities exchange because each investor has paid for its investment. In Figure 1, the securities exchange may be an existing exchange or a special-purpose exchange designed to list “transparent traders”.

The “transparent traders” limit their balance sheets exclusively to exchange-traded assets and liabilities that are valued at their market value. The financial statements of the transparent traders are transparent at all times.

The transparent traders trade “liquid contracts” on the contracts exchange. All liquid contracts have the following characteristics:

- ❖ Any service obligations are unbundled from the financial stream by contracts with service providers so that a pure financial asset or liability is being traded
- ❖ Traders pay the price per share when they invest in an asset; they receive the then-current price per share when they sell the asset
- ❖ Traders receive the price per share when they underwrite a liability; they pay the then-current price per share to lay off the liability
- ❖ A standardized list of practical contractual terms to minimize any uncertainty about the nature of the asset or liability
- ❖ The market price is determined by the trading on the exchange, not by fiat. That market price must be shown in the trader’s balance sheet.

The “surety guarantors” provide either credit enhancement or a performance bond for a price (premium) that is determined by the competitive market. The price of the guarantee depends on the transparent trader’s financial statement.

The financial system outlined in Figure 1 has these characteristics:

- ❖ Exchange-traded liquid assets
- ❖ Exchange-traded liquid liabilities
- ❖ Very low transaction costs on the exchanges
- ❖ Ready access to data about each transaction, including price
- ❖ Transparent balance sheets (i.e., traders on the exchanges hold only exchange-traded assets and liabilities valued at all times at their market value)
- ❖ Connections to the capital markets (i.e., some traders are listed on securities exchanges)
- ❖ Credit enhancement by a surety guarantor (i.e., the exchange or some other entity assures that the traders’ positions will be honored)
- ❖ Ready access to data about the price structures for this credit enhancement

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- ❖ Easy entrance for traders and prompt, low-cost means to remove unsuccessful traders (this was documented by James Surowiecki¹)

There can be many exchanges, many traders listed on those exchanges and many thousands or millions of exchange-traded contracts.

Liquidity

Many assets have the quality that the owner has a high degree of confidence that the asset can be sold at a price that reflects supply and demand for the asset in a competitive market. Such assets are said to be liquid because they can be liquidated, or turned to cash, in the time that it takes to prepare a financial statement. Stocks, bonds, Treasury bills and other assets have this property of liquidity.

Assets other than stocks and bonds are less liquid, or not liquid at all. Studies of the bubbles and crashes in securities markets have shown that assets are not truly liquid if only a small number of buyers exist, or if only a small number can be expected to persist in the face of a decline in price. Liquidity is a quality of a financial market; parameters can be measured, but past measures will not predict future liquidity if the financial system does not permit a rapid increase in the number of interested investors when prices decline. Liquidity comes from the structure of a financial system.

Liabilities are almost never liquid. Until now, an increase in a liability (such as an insurance reserve for homeowners' policies) or a potential liability (such as a short sale of a security) has always threatened the credit standing of the party owing the liability. Insurers who sell homeowners' policies have to carry relatively large levels of minimum net worth. Each short seller must maintain means to raise the cash to liquidate its short positions; when such means are not readily available, the short seller is forced to bid up the price of the security in order to obtain the shares to liquidate his position.

However, no fund can have a truly transparent balance sheet unless the fund can mark its assets and liabilities to market prices. That is, transparency can only really exist when there is an active market for liabilities as well as for assets. Moreover, in such a market, the market price must not be a function of which fund is paying to rid itself of a liability. That is, transparency in fund balance sheets depends on the funds having the same default risk. Although there are an uncountable number of ways of having default risk, there is only one

¹ James Surowiecki, "The Wisdom of Crowds: Why the Many Are Smarter than the Few and How Collective Wisdom Shapes Business, Economies, Societies, and Nations", Doubleday, 2004. Chapter 11, "Markets: Beauty Contests, Bowling Alleys and Stock Prices" discusses the conditions that lead to bubbles and crashes and how those conditions can be mitigated. A major finding is the importance of investors whose decisions are unaffected by herd psychology. A good antidote to herd psychology is to have "skin in the game"—for example, farmers who borrow money only when they can lock in a good price for their harvest.

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level of risk at which all the traders are the same—and that level is when the funds are all essentially guaranteeing one another. (This has been the position of the CME throughout its history. That is, traders who have an asset in the Merc are encouraged to treat that asset as a security issued with the highest possible rating.) Fortunately, as the CME has shown, the combined financial strength of all the traders can be sufficient to withstand the most extraordinary financial events of a century.

Counterparty Risk

One way to implement the “Surety Guarantor” feature shown in Figure 1 would be to have each Contract Exchange guarantee any obligations by its members for clearing of contracts traded on the exchange. An alternative would be to have each Contracts Exchange require credit enhancement (or a performance bond) for each trader on the Exchange. Presumably each Exchange would choose one system for all of its members and their clearing house or houses. A third alternative would be to include in the financial system a new set of businesses specifically chartered to provide these financial or performance guarantees. These guarantors could themselves be transparent traders. The point is that the problem has been successfully addressed by the world’s leading commodities exchanges for more than 100 years, which has led to some of the solutions already being in use and other solutions now awaiting practical trials.

Example: Wheat Futures

Here is an example of how the cash would flow in the system without margin accounts, daily price change limits or position limits. This is the example from the CFTC’s Education Center on the web. This is of course a simplification of the proposed system.

Suppose a farmer near Omaha, Nebraska plants wheat with an expected yield of 50,000 bushels during the spring at a time when the CBOT contract for delivery during December (the first new crop contract month for spring wheat) is trading at \$3.50 per bushel. While the price of wheat in the Omaha area may differ from the futures price (which reflects wheat prices in one of the delivery locations: Chicago, St. Louis, Toledo, Ohio, or Burns Harbor, Indiana), it is reasonable to assume that the prices are closely related.

The farmer knows that if he or she can sell the wheat at \$3.50 per bushel, there will be a reasonable profit. By planting the wheat, the farmer is in effect betting that the price of wheat will not decline between now and harvest time. Such bets are intrinsic to the business of farming, since farmers have no control over the prices they receive for their crops. <http://www.cftc.gov/educationcenter/economicpurpose.html>

The farmer’s desire to hedge at the price of \$3.50 per bushel, and similar desires by other farmers, provides an incentive for a transparent trader to take a short futures position at the current quoted price of \$3.50. Let’s assume that there are no concerns about the cost of fuel, fertilizer or transportation—just the one risk to hedge. Then a transparent trader

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would have an incentive to represent the wheat farmers by keeping its short positions limited to these wheat futures. In this example, the transparent trader takes a short position on “liquid contracts” totaling 50 million bushels.

What are these “liquid contracts”? They are shares in a partnership² that has been created by the traditional institutions to make futures contracts liquid. In this example, a December wheat liquid contract named DWLiC encompasses short positions on 500 million bushels, or 100,000 futures contracts of 5,000 bushels each. Further, in this example, DWLiC is initially funded with \$70 million comprising one million shares with an initial value of \$70 per share. DWLiC deposits \$65 million (that is, \$650 per contract, as in the CFTC’s example). From now on, any demands for cash, and any distribution of cash, will be prorated among the one million shares.

In this example, the transparent trader has taken a short position on 50 million bushels, which means that it has underwritten 10% of DWLiC by investing \$7.0 million. Among the assets and liabilities on its balance sheet the trader shows an asset of 100,000 shares of DWLiC valued at the current market price of \$70 per share or \$7.0 million. In this example, a decrease in the price of the underlying wheat future by \$0.50 per bushel will increase the trader’s net worth by \$25 million (50 million bushels times \$0.50 per bushel).

In this example, in August the transparent trader has a book value of \$10 million, including an asset of \$7.0 million for its position in DWLiC, cash of \$3.0 million, and no liabilities. The transparent trader has one million shares issued and outstanding. Therefore the trading price per share in August is \$10 per share.

The farmer wants to hedge a price change on 50,000 bushels and the trader has a hedge on 50 million bushels, so the farmer buys 0.1% of that trader’s stock, which is 1,000 shares, for an investment of \$10,000. This \$10,000 investment can be compared and contrasted with the \$6,500 of margin deposit the farmer made in the CFTC’s example.

The investment gain if the spot price declines to \$3.00 is \$25,000. The value of the transparent trader’s short position will have increased by \$0.50 per bushel, or \$25 million in total, or \$25 per share. The value of the farmer’s 1,000 shares will have increased by \$25,000, the same as in the futures market.

The investment loss if the spot price increases by ten cents to \$3.60 is \$5,000. The value of the transparent trader’s short position would have decreased by \$0.10 per bushel, or \$5 million in total, or \$5.00 per share. The value of the farmer’s 1,000 shares has decreased by \$5,000. This loss of \$5,000 offsets the gain the farmer made from the increase in the price of the farmer’s 50,000 bushels of wheat.

²The form might be any legal structure the value of which might be positive or negative depending on the facts at the moment and that provides equal shares. The entity performs some, but not all, of the roles of the clearing house for futures contracts. In the case of commodity futures, it seems likely that the typical liquid contract would be managed by a commodity clearing house because of the existing expertise.

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The maximum investment gain, the most that the transparent trader can make in this example, happens if the price falls to zero from \$3.50 per bushel. In actuality, the maximum gain would be somewhat less. If, for example, the spot price fell to \$0.50 per bushel, then the short position on 50 million bushels would have increased in value by \$150 million. The farmer's 1,000 shares would have increased by \$150 per share, to \$160 from \$10, and the farmer would realize a gain of \$150,000, the same as in the example of the futures market.

The worst-case investment loss is the farmer's investment of \$10,000. That investment is in a security. Therefore, although the value might go up or down, it can't go below zero. The farmer won't be obligated to provide more money under any circumstances. Therefore, the transparent trader in this example is a hedge on a downward price movement of approximately \$3.50 and an upward price movement of \$0.20. Any greater upward price movement will not be hedged. In this example, the farmer will be paid the spot price for his or her crop—and have lost his or her \$10,000 investment.

The prices have been kept at simple multiples in this example so that the reader can see the relationships. Prices would be different from those shown here. One of the most important differences would be that the prices would reflect the costs of the implicit long position on the transparent trader's share price. In this example, the limit on the investment loss to \$10,000 would make the shares of the transparent trader more attractive than if that limit weren't there, which would increase the demand for such shares.

Risk and Basis Risk

This simple example shows that although transparent traders have some of the qualities of futures contracts, transparent traders are simpler than futures contracts, and so are easier to use for hedging but even less useful for merchandising. That is, transparent traders have less financial risk but more basis risk.

There are many sources of additional basis risk in the proposed system. One source of additional basis risk is the franchise value in the transparent trader's share price.

However, the farmer, like every business that uses futures to manage risk, faces risks other than the price of the crop at harvest. In addition to the basis risk described in the CFTC's web site, there are many ways that farmers gain and lose as they plant, grow, harvest and transport their production. One such risk is that futures contracts hedge the decline in the price per bushel, but not the change in the size of the crop. In this example, the decline in the price of wheat to \$3.00 resulted in a gain of \$25,000 for the farmer, effectively covering the decline in the price of the farmer's 50,000 bushels of wheat. If the final spot price of \$3.00 was less than the August price because of a bumper crop for the farmer and other nearby farmers, then the farmer also brought more than 50,000 bushels to the market, and had additional profit from doing so. (This is not the only scenario.)

The proposed system can provide risk management solutions that are more effective at addressing a variety of risks by building transparent assemblies of underlying futures

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contracts. Although a transparent trader might be as simple as the one in this example, the open, active free markets may create transparent traders that can be invested in at the time of the harvest and which also pay dividends in proportion to the costs of fuel and other expenses of raising the crop. Some transparent traders could be tailored to farmers, others to grain elevators, transportation systems, food processors and even restaurant chains. In other words, although the proposed system might have more basis risk than the wheat futures contract with respect to the price of the harvest, it might have less basis risk than the existing wheat futures contract when the totality of the business's operations is considered.

Price Discovery

In simple terms, there is a supply of December wheat, a demand for December wheat and a striking price at which the amount bought equals the amount sold. In economic terms, there is a schedule that relates the supply to the price, another schedule that relates the demand to the price, and a unique price at which the supply and demand are equal. That price can only be estimated because the schedules of supply and demand are not known. "Price discovery" is the process of finding the price from the data about what is bought and sold.

One set of supply and demand relates to spot prices. The amount of wheat appearing at a particular destination on a particular date is more a function of the crop than of the current price, so the spot price is largely determined by the demand schedule. The demand schedule is also relatively steep because of commitments to marketing plans and to food processing facilities. In the short run, the schedules of supply and demand are inelastic.

On the other hand, a different set of supply and demand relates to the futures prices. In August, the price of December wheat futures reflects long-term supply and demand. Farmers can vary their plantings. Restaurants and processed foods can vary their menus and their processing facilities. In the long run, the schedules of supply and demand are elastic. Far in the future, futures prices reveal the intersection of these long-term schedules. They are therefore important prices for making decisions about long-term plans, such as what crops to plant and what processing facilities to build.

The process of price discovery is to provide the best information about the price. The proposed system introduces a third pair of schedules for supply and demand. These new schedules are even more long-term than those of futures markets because they are closer to the equities market for which the perspective is unlimited. These new schedules of supply and demand provide liquidity to the futures market, and thus to the forward contracts market, while providing useful price information in themselves.

Consider a one-time increase in the long-term demand for wheat. Although the cause doesn't matter, let's assume this is because of new technology for transporting wheat products to developing countries where the demand schedule is increasing the fastest.

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This one-time increase will appear in a higher spot price when the December crop is brought to market. It will appear as a higher price for the December wheat futures. If this increase in the demand schedule occurs on the first day of September, it will appear as a jump in the prices of any contracts that are being traded.

With the new third system in place, it will appear as an increase in the market price of shares of transparent traders that are long on wheat futures and a decrease in the market price of shares transparent traders that are short on wheat futures.

Both the increase in the market price of the wheat futures and the increase in the market price of the transparent traders will happen at the same time, if the two markets are actively trading. Any momentary difference will be arbitrated away if the prices of the wheat futures and the transparent traders can be observed. If, for example, the wheat futures market is closed for 16 hours, the prices of shares of the transparent traders will move continuously, and the price of the wheat futures will catch up in the morning. If, to take another example, the wheat futures price is constrained on a given day by a price change limit or a constraint on demand by a position limit, the prices of shares of the transparent traders will move continuously, and the price of the wheat futures will catch up when they can. In other words, the new contracts without margin accounts, price change limits or position limits will provide more continuous price discovery.

If both markets are active so that prices can exhaust any arbitrage opportunities, the new market and the existing futures market will move together. It won't appear that one is "driving" the other; information and price initiatives will move back and forth between the two types of markets. In other words, in addition to being more continuous over time, the new markets will add a lot of price data by creating a lot of transaction records that otherwise would not exist.

Equally important, the new market will provide discovery of a more long-term price. Some planning decisions, such as decisions about how much to plant, run about the same calendar time as the existing futures contracts. Other planning decisions, such as decisions about how much land to sell to commercial developers or how large a processing plant to build, last for many seasons. To the extent that long-term prices are different from prices that are being discovered in light of today's acreage and processing capabilities, the price difference will be important to decision-making for a healthy economy. The difference in prices will show up in the franchise value of transparent traders that demonstrate competence in managing books of futures contracts.

Let's use the example in the previous discussion to see what happens minute by minute in the prices for wheat futures and the prices for transparent traders who take positions, either short or long, in those wheat futures.

In our example, in August the transparent trader had a book value of \$10.0 million, including \$7.0 million in shares of DWLiC (which are, in turn, a short position on the underlying wheat futures) and \$3.0 million of cash. Although the trader has no liabilities, it

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is highly leveraged because the value of its shares of DWLiC is sensitive to changes in the schedules of supply and demand for the December wheat. In this example, we assume that (perhaps because it is highly leveraged) the transparent trader has a franchise value of 1% of book value. That's \$100,000, or \$0.10 per share. The franchise value is the excess of market price over the book value, so another way of saying this is that the trader has a book value of \$10.00 per share and a market price of \$10.10 per share.³

Assume, for example, that after the one-time increase in the demand for wheat the price of the futures contract has increased to \$3.55 per bushel. A margin call is issued (or at least is an obligation owed by DWLiC) for \$0.05 per bushel. In this example, DWLiC issues a call for \$0.05 per bushel to holders of shares of DWLiC. From its cash, the transparent trader pays DWLiC \$0.05 per bushel for 50,000 bushels, or \$2.5 million. Its cash is reduced to \$0.5 million. The transparent trader's balance sheet now shows two assets, the \$7.0 million deposit with DWLiC and \$0.5 million in cash. The transparent trader's book value per share has gone from \$10.00 to \$7.50. That's the accounting for the \$0.05 increase in the futures contract price per bushel.

Let's see what happens to the share price of the transparent trader. As we said before, we are assuming that the price change really reflects an increase in the demand schedule. Accordingly, the transparent trader that is shorting the wheat market will be punished by the market forces by a loss of part of its franchise value. It will now be more leveraged than before. Also, the costs of its surety guarantee will increase because of that leverage and that decrease in its franchise value.

Let's assume the transparent trader responds by redeeming one-half of its shares of DWLiC at the new market price. Specifically, the moment that the price of the futures contract jumps by five cents, the trader reduces its holdings by half. It receives half of the \$7.0 million. The trader's new balance sheet includes \$3.5 million of DWLiC and \$4.0 million of cash. The decision to reduce its position in DWLiC does not affect its income; that loss of \$2.5 million was determined by market prices. The decision to reduce its position in DWLiC does reduce the transparent trader's leverage, and therefore the cost of its surety guarantee. As we noted, the trader has lost some franchise value. Let's assume that the reduction in exposure to DWLiC reflects the market's long-term schedules of supply and demand, and that the franchise value is now \$0.05 per share, down from \$0.10 the moment before. The transparent trader's book value is now \$7.50 per share and its market price is \$7.55 per share.

Let's look at each of the three exchanges. On the commodities futures exchange, the unit price for the wheat futures contract increased by \$0.05 to \$3.55. On the liquid contracts exchange (at the top of Figure 1), the unit price for shares of DWLiC was unchanged at

³ The farmer will pay \$10,100 for his or her shares, not the \$10,000 shown on page 5.

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\$70.00,⁴ although every holder of a share of DWLiC lost \$0.05 per bushel or \$25.00 per share of DWLiC. On the securities exchange, the share price for this transparent trader decreased to \$7.55 from \$10.10, a decline of \$2.55 per share. The farmer who bought 1,000 shares to cover 50,000 bushels of wheat has seen the price of the wheat go up by \$2,500 and the price of his shares of the transparent trader go down by \$2,550. This is not to say that the change in the price of the futures contract drove the change in the price of the trader's shares—or the other way around. It is to say that prices rose and fell in tandem.

We observe also that the long-term market reflected a different change than the futures market. In this example, the new market showed a slightly greater change than the futures market, \$2,550 compared to \$2,500 on 50,000 bushels. The futures market discovers the price for December wheat; the securities exchange discovers the price of longer-term positions in the wheat market. The new contracts exchange without margin requirements linked to the worlds' securities exchanges contributes both to price discovery for the current crop and to price discovery for long-term schedules of supply and demand.

The transparent trader was not required to redeem one-half of its shares of DWLiC, but chose to do so. Each player in the proposed system is free to follow its own strategies and tactics. Every transparent trader's market-place activities contribute to price discovery.

In the short run, supply and demand schedules are relatively fixed and prices move sharply. In the long run, supply adjusts, consumption adjusts and prices are stable. In one sense the economic reason for futures markets is to replace planning based on short-term prices with planning based on long-term prices.

Transaction Costs

The costs of executing transactions on futures exchanges today are much greater than the costs of executing transactions on securities exchanges. The higher costs relate to the conventional risk measures on futures exchanges. These include managing margin accounts, setting daily trading limits and setting position limits for the individual traders.

In this example, to the farmer, the cost of the current system is the cost of advancing \$6,500 for the first ten contracts followed by another \$2,500 each time the price ticks up by five cents a bushel; the cost in the proposed system would be the cost of advancing \$10,000 plus the cost of two Internet trades, once to buy 1,000 shares of the transparent trader and once to sell those 1,000 shares.

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Table 1 on the following page highlights many of the implications of the proposed system for trading futures contracts without margin requirements.

⁴ Again, that is an assumption to keep the example readable. The unit price would be set by the activities of all of the transparent traders in the contracts market.

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This brief explanation only touches on the concepts. Many of these concepts have been more fully disclosed in our patent applications.

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Table 1. How do the proposed contracts exchanges differ from today's futures exchanges?

| Feature | Today's Futures Exchange | Proposed Contracts Exchange |
|--|---|--|
| Margin account | One for each trader | None |
| Price change limit | Daily or more frequently | None |
| Position limit | Depends on trader | None |
| Balance sheets of traders | Not disclosed | Transparent |
| Ultimate guarantor | The Exchange | The Exchange, or guarantors approved by the Exchange |
| Bid disclosure | Only if a transaction results | Only if a transaction results. Alternatively, all bids are disclosed, but randomized strategies create liquidity and mask the traders' strategies |
| Role of rating agencies | May rate a trader or an obligor under a contract | No role, but may own shares in guarantors and share expertise |
| Investors (the capital markets) | Can invest in some traders, or trade in some commodities, but can't see their "total holdings" because traders balance sheets aren't transparent. | Can apply portfolio techniques to the "total holdings" in their own portfolio and the transparent traders they invest in |
| Access to new capital following a loss | History shows this has been limited; only members of each market segment's "club" understand the complicated instruments. | No longer limited; investors could apply their models to determine which traders to invest in. |
| What spurs liquidity? | Past profits—hence, the bubbles. | Rules of the Contracts Exchange implemented by contracts with the traders |
| How volatile is the price signal? | Hard to know because of daily price change limits. | The signal is highly volatile. The system provides enough transaction volume to separate the signal from the noise. |
| How do pure speculators invest? | They buy futures or take long or short positions on indexes. | They take long or short positions in the securities issued by the transparent traders |
| How are officers and employees of traders compensated? | Private equity funds may pay a share of the short-term profits through a quarterly or annual bonus. | Management firms are paid by contracts with one or more transparent traders; all payments are settled continuously; bonuses to individuals, if any, are not paid by the transparent traders. |
| How are traders assessed for counterparty risk? | Indirectly through the costs of maintaining lines of credit to support their margin accounts | Directly by paying for credit enhancement; in one design, the premium formulas are disclosed at all times. |

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Biographical Information about the Investors in LIC Development LLC As of May 1, 2008

Oakley E. (Lee) Van Slyke, President, is a nationally recognized leader in casualty actuarial practice. He is a Fellow of the Casualty Actuarial Society (FCAS), an Associate of the Society of Actuaries (ASA) and a Member of the American Academy of Actuaries (MAAA). Van Slyke has retired from active practice as a consulting property-casualty actuary to devote his time to the development of LIC Development LLC and to civic activities. Van Slyke has a B.S. from the Massachusetts Institute of Technology.

Brian Whitworth, founder of www.financialpatents.com, holds several patents for business methods in the financial arena. He is currently employed in the Los Angeles office of JP Morgan. Whitworth holds an MBA from the University of Chicago.

Paul Braithwaite, FCAS, is currently employed as a Managing Director of Navigant Consulting in New York, NY. He has held a range of executive positions in the property-casualty reinsurance industry. Mr. Braithwaite served as President of the Casualty Actuarial Society in 2005-2006.

Wayne H. Fisher, FCAS, is the Executive Director of Enterprise Risk Management Institute International. Fisher recently retired from a long career in insurance and reinsurance. Fisher served as Chief Risk Officer of Zurich Financial Services.

Philip E. Heckman, President of Heckman Actuarial Consultants, Ltd., is an Associate of the Casualty Actuarial Society and a member of the American Academy of Actuaries. He holds a B.S. in Physics and Mathematics from Purdue University (1964) and an M.S. and a Ph.D. in Physics from the University of Chicago (1969). After five years in the Physics Department at McGill University, he joined CNA Insurance Companies, earning his actuarial designation in 1979. He has since worked at Ernst & Young LLP, and Aon Corporation. He has special expertise in statistical analysis and modeling, including catastrophes and stochastic modeling of loss reserves.

Russ John is currently a Director and senior advisor to Ironshore Insurance Ltd located in Bermuda. He retired from Swiss Re Underwriters on December 31, 2006 where he served as President and Chief Executive Officer. Previously he was President and Chief Executive Officer of Underwriters Reinsurance Company. He joined Underwriters Re in 1987 as Chief Actuary, became President and Chief Operating Officer in 1995 and Chief Executive Officer in 1998. After the company was purchased by Swiss Re in 2000, Mr. John stayed on as CEO. Prior to

Underwriters Re, he held various senior positions, including Chief Actuary, at Prudential Reinsurance Company. Mr. John is a Fellow of the Casualty Actuarial Society and has served on several CAS and other industry committees. He holds a Ph.D. in Mathematics from Rutgers University in New Brunswick, New Jersey.

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Gerald J. Sullivan and Hank Haldeman are executives at The Sullivan Group, a privately held consortium of independent, insurance-related companies which are involved in many different areas of the insurance brokerage business. Long recognized internationally for expertise in handling professional liability insurance programs, Sullivan Group companies have handled all forms of retail insurance for many insurance buyers since 1933. Today, the Sullivan Group participates in both retail and wholesale activities in virtually all areas of property and casualty, life and employee benefits, as well as the structured settlements business. With over 375 employees handling in excess of \$1.4 billion in annual premium volume, the overall group is one of a very few privately owned operations ranking among the largest brokerage organizations in the United States. The separate companies share a common philosophy, which starts with an uncompromising commitment to client service.