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The Magic of Trading in Limit Markets

By Diana Klemme

Limit markets in futures can be frustrating; it's like running into a brick wall. A "limit-down" day can make it seemingly impossible to sell futures, and merchandisers are often unsure what to bid farmers. "Limit down" means the market has reached its lowest possible price for that session, although there may be active trade at that price. "Locked limit down" means prices have hit the lowest possible value for the day, *and* there are unfilled sell orders at that price. Trading stalls. This has led to calls for higher limits, or even *no* daily price limit. But there are ways to continue to buy or sell futures, *if* you know the ins and outs and how to make magic.



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Daily price limits in agricultural futures are an effective "circuit breaker," providing time for additional order flow to bring some balance to price discovery, and pro-

■ Daily limits in agricultural futures provide some protection against the specter of an uncontrolled free-fall or rally. ■

viding some protection against the specter of an uncontrolled free-fall or rally, similar to the now-infamous "Flash Crash" that occurred in the equities sector on May 6, 2010.

On that day a mutual fund entered an order to sell 75,000 E-Mini futures contracts to hedge an equity position. The fund used an automated execution algorithm that did as it was instructed, but trig-

gered an unintended broad-based collapse of 15% or more of the value, which just as quickly reversed, and causing some individual stocks to trade as much as 60% lower than

just moments before, according to the Commodity Futures Trading Commission and SEC joint report. The break hit and was over before traders could even determine in what market it began, let alone what caused it, but left a

trail of confusion, poorly executed orders, and little to no true price discovery. (Note: CME E-Mini futures are an index product equivalent to the S&P Index value times \$50.)

The dramatic collapse in corn futures on June 30 was a similar situation after the bearish USDA Stocks and Acreage reports were released that morning. July 2010 corn futures, which had no daily price limit, plummeted 75+ cents

— almost a 10% break. That day's action showed both strengths and weaknesses in the structure of CBOT ag contracts. June 30 happened to be month-end and quarter-end, when speculative and investment funds post their results. The "real" price of most months of corn

■ Future spreads can continue to trade freely even when individual futures months are both limit up or down. ■

futures would have been lower than the 30 "limit down" posted settlement, but statements are based on settlement prices. Fund results for June were out of sync as a result, and the pressure is sure to increase in the investment sector for higher daily price limits. The cash grain sector may have had its own challenges determining the right values to use for month-end P&Ls, but grain firms are largely on the side of maintaining price limits.

Market purists were enraged on June 30 because corn could not be sold in deferred futures, but could be priced synthetically via options or using the spot July futures contract. A mini-refresher on CBOT rules and procedures may clarify how to execute these trades. (The same procedures apply on KCBT and MGEX wheat contracts.)

- Effective on the second business day prior to the first business of the front-month futures, the daily price limit is removed *for the spot contract month*. As of June 29, July 2011 grain/soy futures no longer had a price limit.
- Options have a daily price limit that matches the daily price limit on futures. Corn options

have a 30 limit, for example; 70 for soybeans and 60 for wheat.

- A newly listed option strike price has no prior settlement price. A new strike price will be subject to the same daily limit, but the "first tick" can find its own level, with all trades after that subject to the daily price limit
- Futures spreads have a daily price limit that is double the limit on the outright futures. The limit on corn futures is 30 up or down; the limit on spreads on corn futures is 60 up or down.
- Futures spreads can continue to trade freely *even when the individual futures months are both limit up (or down)*.

When futures are limit-bid or limit-offered, with unfilled orders at the limit price, trade can continue synthetically — at a value *beyond the limit price* by using spreads or options to create a synthetic strategy.

— **Using spreads and the "no limit" spot month to "bypass" the limits on deferred futures.** July corn futures were off 75 or more on June 30. But most people who wanted to sell September futures at 30 lower were unable to fill their orders; there were far more offers than bids at limit down. But you

could sell July '11 futures. The next step (immediately or later) was to enter a spread order and buy back the July position and simultaneously sell September futures to "move" the futures sale to the September contract month. Interestingly, the July/Sept spread on June 30 was only minimally changed from the prior day, trading around 22 inverse at times before closing at 28 inverse. (See Example 1)

The key in this example is that spreads can continue to trade even when all futures are locked limit up or down, and they can trade independently of values indicated by simply subtracting one price from another. Example: On 6/30, \$6.25 July minus \$6.48 (limit down in Sept futures) made it *appear* the spread was a carry of 23 when in reality the spread was still trading at a 22 inverse. It's important to first verify the current bid/offer on the spread.

In this example, an elevator could sell and hedge farm purchases in September futures indirectly, and bypass the "brick wall" of the price limit. Conversely, an end user that wanted to buy corn for feed could have bought September futures at limit-down, \$6.48, or taken the extra steps and ended up with a purchase at \$6.03, for a gross savings of 45.

— **Using spreads to execute**

EXAMPLE 1.

Sept futures were down the 30 limit at \$6.48 with thousands of unfilled sell orders

| | |
|--------|---|
| 6/30 | Order: Sell July futures at \$6.25 (down 73) |
| 6/30 | Spread order: Buy July/sell Sept at 22 inverse |
| 6/30 | Outcome = a sale in Sept equivalent to \$6.03 (45 below the "official" limit down Sept futures price) |
| Recap: | Sold July \$6.25 |
| | Spread: Buy July @ \$6.25 + Sell Sept @ \$6.03 (at 22 inverse) |
| | Net = a sale in Sept equivalent to \$6.03 |

The prices shown here on each leg of the spread are to simplify the example. The prices could vary but if the spread was executed at 22 inverse, the net outcome would be the same: A sale in September equivalent to \$6.03.

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orders in a limit market when the front-month still has a daily trading limit. If a limit bid or limit down market develops while the front contract month still has a price limit, there may still be a way to execute orders. Not all futures months may go limit sellers or limit bid immediately, or at any time during

whatever price they're willing to bid and then immediately exercise the option. Buying a \$1 call for \$5.03/bushel is the same as buying futures at \$6.03, and could have occurred even if futures were limit-down at \$6.48. Selling a \$1 call for \$5.03/bushel would yield a short futures equivalent of \$6.03 for the option

limits do allow time for buyers and sellers to reassess price goals and strategies, and provide time to prepare for additional margin calls. Prices will still find their "right" value, and the world is surely not harmed if it takes even two or three days to do so instead of instantly. It's worth noting that after the dramatic drop on June 30, July 11 futures closed 11 higher on July 1, and December 11 futures closed 23 lower. The net for December corn after two sessions was a drop of 53. Within a few hours of the close on June 30, prices had found equilibrium.

The "Flash Crash" illustrated that high-speed algorithmic trading programs have the ability to move one market and can trigger a cascade across numerous, even unrelated markets such as ag contracts. Daily price limits also protect customers against unquantifiable potential margin calls. The specter of an "unlimited" single-day price move could force brokerage firms to restrict trading activities or impose lower position limits on some clients to reduce margin-call exposure.

Opponents of price limits point to the inefficiency in forcing traders to use options or spreads to execute orders outside the designated price limits. When corn was locked limit down on June 30, much of the volume spilled into the option pits and nearly swamped that boat, so to speak, while more volume headed for July futures.

Both sides of this debate have merit but I have long supported daily price limits for agricultural commodities and continue to do so. I do not even support the higher price limit on corn currently proposed by the CBOT. Customers that know how to utilize the two-step strategies to "bypass" price limits can do so, but no one is obliged to do so. The market will find its value in time, and patience is a virtue. So is knowing how to hedge when others can't! ■

EXAMPLE 2

Assume it's late July. July futures have expired and September futures are still subject to daily price limits.

| | | |
|--------|--|---|
| 7/27 | Sept futures | \$8.00 down 30 limit |
| | Dec futures | \$7.95 down 30 limit |
| | Mar12 futures | \$8.09 down 30 limit |
| | July12 futures | \$8.18 down 25 |
| | Dec11/July 12 corn spread is quoted at 28 carry. | |
| 7/2 | Order: | Sell July12 futures at \$8.18 |
| | Spread order: | Buy July12 futures/Sell Dec11 futures at 28 carry |
| | Net = | a sale in Dec11 futures equivalent to \$7.90 (5 below limit down) |
| Recap: | Sell July12 | \$8.18 |
| | Buy July12 | \$8.35 + Sell Dec11 \$8.07 (28 carry) Outright prices on July & Dec are for example |
| | Net: | 17 loss on July12 futures + Sale in Dec at \$8.07 = \$7.90 net hedge value for Dec |

Note: In all cases the required exchange & regulatory fees will apply along with brokerage commission costs.

the session. This allows a buyer or seller to execute the desired order in a deferred futures month where there's less "action," and then spread the trade back to the desired month. As with the prior strategy, be sure to check what the spread bid/offer is to know what price you will net: (See Example 2)

— On days when a limit move is expected, the CBOT will post a previously unlisted option strike price for each futures month, for immediate trading. This will be a deep in the money strike price, which will move essentially as a futures contract would. (\$1 September corn call, for example) Buyers can buy the call at

seller, after the call option is exercised by its owner. Because a new Strike Price has no prior settlement price, the premiums can move up or down the daily limit from the first trade price of the day. In all but extreme cases this will create a wide enough range to allow synthetic futures to be created at levels equivalent to beyond the limit price in futures. On June 30, however, the price move was so extreme that the CBOT listed a second new strike price midday to allow the synthetic futures to move even further.

The June 30 collapse showed strengths and weaknesses in the argument about price limits. Daily