

Staff Report on Cotton Futures and Option Market Activity During the Week of March 3, 2008



Commodity Futures Trading Commission
1155 21st Street, NW
Washington, DC 20581

January 4, 2010

Table of Contents

EXECUTIVE SUMMARY	1
Division of Enforcement’s Manipulation Investigation	4
ICE U.S. Changes to Price Limit/Margining Rules	6
Staff Recommendations / Inquiries.....	6
1. Cotton Market Background.....	7
2. Cotton Market Fundamentals in Early 2008.....	7
3. General Market Conditions in Early 2008.....	8
4. Open Interest Held by Index Traders and Cotton Merchants in Early March 2008	10
5. Cotton Futures and Option Contract Price Increase	13
6. The Role of Margin and Price Limits	17
7. Causes of the Price Increase on March 3 rd – March 5 th	21
8. Enforcement Investigation.....	22
Potential Manipulation of Cotton Futures Prices.....	22
Potential Manipulation of Cotton Option Prices.....	24
Potential Manipulation of the Cotton Physical Market.....	26

EXECUTIVE SUMMARY

The following is a report from staff of the Commodity Futures Trading Commission (“Commission”) on market activity in the Cotton No. 2 (“cotton”) futures and option contracts during the week of March 3, 2008.

Cotton futures and option contracts are listed for trading on ICE Futures U.S. (“ICE U.S.”), formerly known as the New York Board of Trade. Prior to March 3, 2008, cotton futures contracts were traded both electronically and by open outcry on the trading floor (“floor trading”).¹ Beginning on March 3, 2008, electronic trading became the exclusive manner in which to trade cotton futures contracts on ICE U.S. As such, March 3rd was the first day that the cotton futures trading floor was closed.

In March 2008, the trading of cotton futures contracts on ICE U.S. was subject to “price limits.”² A price limit is the maximum amount the price of a futures contract can increase or decrease in a single day. In March 2008, the price limit for cotton futures contracts was 3¢ per pound (and expanded to 4¢ per pound if the contract price rose above 84¢ per pound). If the price increased 3¢ per pound above the previous day’s closing price, the market was “limit up” and market participants could trade only at the limit price or below. If the price decreased 3¢ per pound below the previous day’s closing price, the market was “limit down” and market participants could trade only at the limit price or above. When the market is trading only at the limit up or limit down price, the market is referred to as “locked limit up” or “locked limit down.” In March 2008, there were no price limits on trading of cotton options.

In late 2007 and early 2008, the prices of many commodities rose substantially. Cotton was no exception.³ Cotton futures and option prices rose in late 2007 and early 2008, but began a steady increase in February 2008 and spiked in the first week of March 2008. During the first week of March, price volatility was evident throughout the cotton market, in futures and option prices for all months (May, July and December 2008). The volatility caused the May 2008 futures contract to lock “limit up” and “limit down” as follows:

- On Monday March 3rd, the price increased 3¢ per pound to reach the limit up price of 84.86¢ per pound at 4:33 a.m., 4:38 a.m., 6:40 a.m., and again at 6:48 a.m. Thereafter, the price remained locked limit up for the rest of the day;

¹ Electronic trading of cotton futures contracts began in 2007. Electronic trading takes place between 1:30 a.m. and 3:15 p.m. Floor trading of cotton futures took place between 10:30 a.m. and 2:15 p.m.

² Price limits are still in effect, but the limits were amended in July 2008. In addition, trading of cotton was (and still is) subject to Federal speculative position limits pursuant to Commission Regulation 150.2. During the week of March 3, 2008, staff from the Commission’s Division of Market Oversight (“DMO”) did not observe any market participants’ position violating applicable limits.

³ The cotton futures contract price rose moderately from a settlement price of 53.82¢ per pound on February 28, 2007 in the May 2007 contract, to the December 2007 contract expiring at 58.10¢ per pound. Just two months later the February 29, 2008 settlement price of the May 2008 contract was 81.86¢ per pound.

- On Tuesday March 4th, the market opened up 4¢ per pound at 1:30 a.m. at the expanded limit up price of 88.86¢ per pound, remained there until 11:37 a.m., briefly declined, and reached limit up again at 11:58 a.m. Thereafter, the price remained locked limit up for the rest of the day;
- On Wednesday March 5th, the price increased 4¢ per pound to reach the limit up price of 92.86¢ per pound at 6:05 a.m., remained there until 8:16 a.m., and reached limit up again a number of times between 11:04 a.m. and 12:01 p.m. By the end of the day, however, the price declined 3.58¢ per pound from limit up, settling at 89.28¢, an increase of 0.42¢;
- On Thursday March 6th, the price declined 4¢ per pound and locked limit down at 85.28¢ per pound; and,
- On Friday March 7th, the price declined 4¢ per pound and locked limit down at 81.28¢ per pound.

So, despite the price increases on March 3rd through 5th, the 81.28¢ per pound closing price on Friday March 7th was lower than the 81.86¢ closing price one week earlier on Friday February 29th.

Because options were not subject to price limits in March 2008, the option market did not lock limit up or limit down. Thus, when the May 2008 futures contract was locked limit up or limit down, options continued to trade, as option prices were not constrained by the price limit set for the futures contract. As such, option prices could increase higher or decrease lower than futures contract prices.

When the May 2008 cotton futures market was locked limit up, market participants, including cotton merchants seeking to reduce their short futures exposure by establishing synthetic long futures positions or purchasing call options, entered the option market. Option volume increased dramatically during this period, as did option price volatility, unconstrained by price limits. At its peak on March 4th, while the futures contract was locked limit up at 88.86¢ per pound, the option price reached an intraday high of \$1.09 per pound.

ICE Clear U.S. is the Commission registered derivatives clearing organization (“DCO”) that clears and settles all transactions executed on or subject to the rules of ICE U.S. When the May 2008 cotton futures contract locked limit up, ICE Clear U.S., consistent with ICE U.S. rules⁴, used prices from the option market as the basis for the mark-to-market calculation for open futures positions in cotton and issued calls for the settlement of variation (“margin calls”) based on these prices.⁵ Because option prices were not subject to price limits, when the option

⁴ In March 2008, Rule 5.03(b)(v) required the net liquidating value of each account at the close of trading on any business day on which trading ceased because the market locked limit up or limit down to be computed using as the settlement price such synthetic price as ICE U.S. or ICE Clear U.S. shall determine.

⁵ A “mark-to-market calculation” involves marking all open futures positions to the current market price for the relevant futures contract and determining whether each open futures position has gained or lost money when compared with the last mark-to-market calculation. For example, if a particular cotton futures position was marked to a market price of 80¢ per pound on Day 1 and 81¢ per pound on Day 2, then each open long futures position in

price exceeded the limit up futures contract price, the use of option prices in the mark-to-market calculation process resulted in larger margin calls to market participants with short positions than if the mark-to-market calculation process had used the limit up futures price.⁶

Staff examined the trading in the cotton futures and option markets to identify factors that may have caused or contributed to increased volatility and the price spike during the week of March 3rd. Factors examined include the trading patterns of market participants, the broad increase in commodity prices in general, the impact of the presence of certain market participants in the market, the possible tightening of credit conditions, the impact of price limits in general, and the potential that prices may have been manipulated.

Two broad types of participants held significantly large positions in the May 2008 futures and option contracts during the week of March 3rd - index funds and commodity index traders (collectively “index traders”) and cotton merchants. Index traders, which held long positions, typically do not alter their trading strategy on a daily or weekly basis as new market information becomes available, and consistent with that trading philosophy, they did not materially alter their futures or option positions during the week of March 3rd when prices increased and then decreased. The data shows that the long open interest held by index traders was not materially larger that week than in comparable time periods. Cotton merchants, which generally held short positions, increased those short positions significantly around mid-February, and sought to reduce those positions as prices increased during the week of March 3rd. The data shows that the short open interest held by cotton merchants (which at times during the week of March 3rd exceeded 66% of the short open interest in the May 2008 contract) was generally at the same level as in comparable time periods in previous years, but was larger than during the same week in 2007.

Cotton merchants have reported that they were anxious over the weekend prior to March 3rd, fearing continued price increases in the cotton futures contract. Recognizing that significant margin calls would result from further price increases, cotton merchants sought to reduce their short futures positions to levels where their financing could cover margin calls⁷ and/or to increase their lines of credit with their banks to finance larger margin calls.

By the early morning of March 3rd, a substantial number of merchants attempted to reduce their short positions by buying cotton futures electronically on ICE U.S. once electronic trading began at 1:30 a.m. The effect of these traders buying futures to reduce their short

that contract has gained 1¢ per pound on Day 2 or \$500 per contract since the contract size is 50,000 pounds. The “settlement of variation” or “variation settlement” involves the settling up of losses and gains as a result of the mark-to-market calculation.

⁶ For instance, the difference between the March 3rd futures contract limit up price of 84.86¢ per pound and the option price of 93.90¢ per pound that was used to calculate the mark-to-market was 9.04¢ per pound. Using the option price in lieu of the futures price to calculate the mark-to-market resulted in additional margin on March 3rd of \$4,520 per contract.

⁷ This course of action would decrease future margin calls on futures positions, but would result in locking in and realizing whatever loss had accrued on the short position as of the time of liquidation.

exposure in an abbreviated period of time resulted in an increase in the price of cotton futures contracts, particularly the May 2008 contract, until the limit up price was reached at 4:33 a.m.⁸

When the futures market locked limit up for the day at 6:48 a.m. and trading could only be at the limit up price or lower, merchants had several hours to wait before the option pit opened at 10:30 a.m. to reduce their short futures exposure by establishing offsetting option positions. Because the futures market was locked limit up, when options started trading at 10:30 a.m., floor brokers and floor traders in the option pit were reluctant to accept merchants' bids until the bids were sufficiently attractive for them to take on the increased exposure of a short position without the ability to hedge in the locked futures market. Further, the increased volatility did not attract new entrants into the option market. Combined, these factors exacerbated the existing upward pressure on prices, and created additional upward pressure on option prices until prices were high enough for floor brokers and floor traders to take the opposite side of trades for which they could not hedge their exposure. Moreover, because March 3rd was the first day that the cotton futures trading floor was closed, this may have added to uncertainty among some market participants.⁹

The sense of urgency to reduce short exposure increased when merchants that had not sufficiently reduced their short exposure received very large margin calls due to ICE Clear U.S. calculating mark-to-market based on option prices. This increased urgency caused the trading patterns in the futures and option markets to repeat themselves on March 4th and caused prices to continue to spiral upward until prices finally began to decline on the afternoon of March 5th.

Division of Enforcement's Manipulation Investigation

As a result of the price increases in the cotton futures and option markets, the Commission's Division of Enforcement ("Enforcement") investigated whether the price of cotton futures and/or options had been manipulated during the week of March 3rd. In conducting its investigation, Enforcement worked with a consulting expert to examine positions and trading in cotton futures and options. In so doing, Enforcement reviewed trade registers and positions of large traders, compelled clearing members to produce account identifying information, interviewed numerous market participants, required testimony under oath, and compelled production of specific position data for numerous market participants.

As part of its investigation, Enforcement analyzed whether there was evidence of manipulation in the futures, option, over-the-counter ("OTC"), and/or physical cotton markets. Namely, Enforcement focused on whether any market participant manipulated the cotton futures and/or option price to benefit a long futures, option, or OTC position and whether any market participant manipulated cotton prices in the physical market. In this regard, Enforcement:

⁸ During the first 2 ½ hours of trading (1:30 a.m. to 4:00 a.m.) on March 3rd, there were 706 transactions in the May contract, with a volume of 1,279 contracts. Contrast that with 214 transactions, with a volume of 256 contracts, during the same 2 ½ hours on the previous trading day, February 29th.

⁹ Even though March 3rd was the first day the futures trading floor was closed, electronic trading had been introduced well in advance of March 3rd and many market participants were experienced with trading futures electronically.

- Examined trading records to determine whether any market participant established a significant long position in either futures or options then liquidated the position after the price increased;
- Examined whether any market participant engaged in a futures or option trading strategy designed to benefit OTC positions;
- Examined whether any market participant: (1) established a long option position and engaged in trading designed to drive up the futures contract price to limit up, resulting in migration of trading to the option market; (2) established a long position in call options prior to March 3rd and drove up the cotton call option price by purchasing additional call options; and/or (3) exacerbated an illiquid option market by buying call options on March 3rd (after the futures market reached limit up) to drive the option price up; and,
- Examined whether any market participant executed a futures/option strategy to increase the value of the physical position or engaged in a physical market strategy, such as cornering the cotton market, to increase the value of its physical holdings.

Enforcement's analysis of trading activity during critical time periods in the cotton futures and option markets did not uncover evidence of manipulation. Specific findings from analysis of the trading activity are as follows:

- The trading activity of the largest longs was not consistent with activity that would cause an increase in the price of cotton futures or options. The data shows that the top ten longs were relatively inactive during the critical time periods and did not engage in any meaningful liquidation during the three days when prices increased;
- Many market participants active in the futures and option markets before futures prices reached limit up were cotton merchants. The cotton merchants held significant short positions and their trading activity appears consistent with activity designed to decrease expected margin calls if prices increased. In light of their short positions and the increasing margin calls if futures and option prices increased, cotton merchants would not benefit financially from manipulating the price of cotton futures or options upward;
- During critical time periods before futures prices reached limit up, no participant in the option market established a significant long position or sold a significant existing option position. Moreover, no market participant built up a significant option position prior to March 3rd, purchased significant quantities of call options during the March 3rd – 5th price increase, and/or sold call options in significant numbers after the price increase; and,
- The merchants with large short positions were hedged, holding sufficient physical cotton to deliver against their contracts. There was no shortage of physical cotton and certificated stocks were rising. Moreover, there was little open interest in the expiring March contract. These factors are inconsistent with a strategy designed to manipulate the physical cotton market.

ICE U.S. Changes to Price Limit/Margining Rules

In the weeks following the market events of the week of March 3rd, ICE U.S. stopped calculating mark-to-market using synthetic prices.

On June 11, 2008, ICE U.S. self-certified to the Commission a rule amendment that removes the requirement that synthetic prices be used to calculate mark-to-market when futures prices are locked limit up or limit down (Rule 5.03(b)(v)). This amendment became effective on June 13, 2008.

Also on June 11, 2008, ICE U.S. submitted to the Commission for approval, and the Commission later approved, rule amendments that expand the daily price limits applicable to cotton futures (Rule 10.09(a)), and that apply the same price limits to cotton options (Rule 10.09(b)). The amendment to Rule 10.09 (a) became effective on July 11, 2008. According to the ICE U.S. June 11, 2008 submission, the amendment to Rule 10.09(b) will become effective “on a business date when the applicable technology systems are able to accommodate option price limits. . . .” To date, ICE U.S. has not implemented the amendment to 10.09(b), so options are not yet subject to price limits. Moreover, because the rule amendment has not yet been implemented, it is now dormant.¹⁰

Staff Recommendations / Inquiries

That ICE U.S. analyze, in light of historic price volatility, the expected frequency with which the current price limits will restrict trading.

That ICE U.S. evaluate whether, in conditions of rapidly rising prices and extreme price volatility, the newly expanded price limits will allow the cotton market to operate efficiently and facilitate the price discovery and risk management functions.

That ICE U.S. notify the Commission of whether it intends to implement the dormant Rule 10.09(b) and subject cotton options to price limits. If so, ICE U.S. should provide the Commission with an update on the status of the technology upgrades needed to implement the dormant rule.

¹⁰ Pursuant to Commission Regulation 40.1(f), ICE U.S. Rule 10.09(b) is dormant because it has remained unimplemented for twelve calendar months following Commission approval. Should ICE U.S. seek to implement this dormant rule, pursuant to Commission Regulations 40.5(a) and 40.6(a), ICE U.S. must first either self-certify the rule or seek Commission approval of the rule.

1. Cotton Market Background

In the United States, cotton is grown in 17 states across the southern half of the country, with Texas being the leading cotton producing state.¹¹ Planting begins as early as February 1st in South Texas and as late as June 1st in the more northern areas. Harvest begins in July in South Texas and extends to late November in the more northern areas. The cotton marketing year runs from August 1st to July 31st.

Seasonal cotton production in the United States between 2006 and 2008 averaged 17.9 million bales. United States cotton production trended upward from the 2002-03 season to the 2005-06 season, when production peaked at 23.9 million bales. Since then, production has been trending downward.

Acreage planted to cotton increased in the first half of the last decade, peaking at over 14 million acres. Cotton acreage has declined, however, as relative prices of competing crops like corn and soybeans have increased, causing acreage to be diverted to those higher priced crops. Despite improvements in cotton seeds and production practices that result in higher yields, cotton production trends still tend to follow acreage trends. That is, a decline in cotton production tends to follow a decline in acreage planted to cotton.

Cotton futures contracts are traded on ICE U.S. Currently, trading is exclusively electronic and takes place between the hours of 1:30 a.m. and 3:15 p.m. Eastern time. Prior to March 3, 2008, trading took place both electronically and by open outcry on the trading floor. The futures trading floor was open between the hours of 10:30 a.m. and 2:15 p.m.

The cotton futures contract size is 50,000 pounds, which is equivalent to 100 bales. Prices are quoted in 1/100 of a cent (one “point”) per pound, which is equivalent to \$5.00 per contract. The delivery months are March, May, July, October and December. Cotton for physical delivery must be of U.S. origin, and the delivery points are Galveston and Houston, TX; New Orleans, LA; Memphis, TN; and Greenville/Spartanburg SC.

Each futures contract has an option that settles into that contract, along with serial options for the months of January, September and November. The January serial option settles into the March futures contract and the September and November serial options settle into the December futures contract. Option strike prices are quoted in one cent intervals, and usually bracket the most recent futures closing price. Options are (and were in March 2008) traded in the options pit between the hours of 10:30 a.m. and 2:15 p.m. Options also trade electronically between 9:00 p.m. and 2:30 p.m., but little option volume is transacted electronically.

2. Cotton Market Fundamentals in Early 2008

The fundamental situation in the cotton market in February and March 2008 was somewhat mixed. Staff posits that perhaps the best description would have been “adequate

¹¹ Alabama, Arkansas, Arizona, California, Florida, Georgia, Kansas, Louisiana, Mississippi, Missouri, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

current supplies with the future potential for a much smaller crop likely.” This description stems from United States Department of Agriculture (“USDA”) data on cotton stocks, and indications from the National Cotton Council (“NCC”) and USDA that cotton acreage was about to decline.

In mid-March 2008, the USDA issued a monthly supply/demand report indicating that cotton stocks were adequate. The crop was 18.2 million bales, compared to 20.8 million bales the previous season. Textile mills were expected to use 4.6 million bales, while exports were estimated at 13.7 million bales. Projected ending stocks were 9.3 million bales, down from 9.4 million the previous season. The ratio of ending stocks to projected use was 51%, down from 54% a season earlier. This indicated that there was an adequate supply of cotton.¹²

While the USDA reported that there was a plentiful supply of current cotton, in early February 2008, the outlook was starting to indicate that the supply might tighten in the future, perhaps substantially. This outlook came in early February 2008 when the NCC released its annual survey of cotton producers’ intentions to plant cotton that spring. The February NCC survey is the first such survey of each planting season. The February 2008 NCC survey indicated that cotton producers intended to plant 9.549 million acres of cotton, an 11.8% decrease in cotton acreage from the previous year. In addition to the NCC survey, the USDA held an Agricultural Outlook Forum in February 2008 during which cotton plantings were forecast to be 9.5 million acres in the coming year, the lowest acreage planted to cotton in 25 years.¹³ This information indicated to the cotton trade that while current stocks were adequate, the new crop likely would be much smaller.¹⁴

3. General Market Conditions in Early 2008

February and March is a period when cotton planting is still in the early stages and producers are making decisions about whether to plant cotton or some other agricultural crop. During this time period in 2008, while planters were making those decisions, prices of other commodities increased substantially. Moreover, the NCC and the USDA data revealed that acreage planted to cotton was expected to decline, and cotton futures and option prices experienced a sustained increase and dramatic spike.

Typically, changes in cotton prices are highly correlated to changes in prices and developments in commodities that compete for acreage, and are influenced by developments in

¹² For stocks to be considered tight, the ratio would need to be approximately 20% or less.

¹³ Actual planted acreage in the 2008-09 season turned out to be 9.47 million acres.

¹⁴ In addition to this information, in early February, the International Cotton Advisory Committee noted that: (i) world cotton production in 2007/08 was estimated at 3% lower than the previous season; (ii) world cotton mill use was projected to increase in 2007-08 by 2% (slower growth than the previous three seasons); (iii) world cotton imports were projected to increase by 9%; (iv) world cotton acreage was projected to remain stable in 2008-09 (but decrease by 11% in the U.S.); and, (v) world cotton yields were expected to increase 3% per hectare.

related futures markets and economic events.¹⁵ In early 2008, some of the significant events in commodity futures markets were as follows:

- Wheat futures (listed for trading on the Minneapolis Grain Exchange (MGEX), Kansas City Board of Trade (KCBT), and Chicago Board of Trade (CBOT)) experienced price increases during the 2007-2008 crop year, and were particularly volatile during early 2008.¹⁶ Prices were frequently locked limit up during the last week of January and first week of February. In response, all three exchanges requested expedited approval of new rules to increase the price limits for their wheat futures contracts. Viewing the rule changes as urgently needed, DMO, using its delegated authority from the Commission, approved the new rules on the same day they were submitted.
- Wheat futures prices experienced additional volatility from the end of February through mid-March. Between February 22 and March 12, the MGEX May 2008 wheat contract price settled at limit up or limit down on 12 of 14 days. This period coincides with the period of high price volatility in the cotton market.
- Rough rice futures contracts are listed for trading on CBOT. Prices generally increased over the 2007-2008 crop year, and more than doubled between November 2007 and April 2008.¹⁷ Prices were particularly volatile in March and April. The May 2008 contract price settled at or above the “base” price limit of 50 cents per hundredweight (cwt.) higher or lower than the previous day’s settlement price on 22 of 43 trading days between March 3rd and April 30th.
- On March 7, 2008, CBOT submitted amendments to its rough rice futures contract providing for expanded price limits. The initial base limit of 50 cents per cwt. was retained, and

¹⁵ Significant fundamental and economic developments that occurred in this time frame included: (i) reports indicating that acreage planted to cotton in 2008 would be the lowest in 25 years (lower supply expectations causing upward price pressure); (ii) record high prices for competing commodities like corn and soybeans (substitute crops for producers, resulting in lower supply expectations for the cotton crop and causing upward price pressure); (iii) record lows in the ICE U.S. Dollar Index (increased demand expectations causing upward price pressure); (iv) record crude oil prices (increased expectations of inflation); (v) record prices for gold and strong prices for silver (increased expectations of inflation); and, (vi) the evolving credit crisis and economic turmoil in the investment banking sector (affecting hedgers’ ability to finance their positions during adverse price movements).

¹⁶ Settlement prices of MGEX spring wheat for the May 2008 delivery were roughly \$6.20 per bushel in early July 2007, \$10.30 in early January 2008, peaked at \$18.50 at the end of February 2008, and declined to \$13 per bushel at contract expiration in May 2008. Settlement prices of CBOT soft red winter wheat for the May 2008 delivery were roughly \$5.90 per bushel in early July 2007, \$9.20 in early January 2008, peaked at \$12.45 in mid March 2008, and declined to \$7.64 per bushel by contract expiration in May 2008. Similarly, settlement prices of KCBT hard red winter wheat for the May 2008 expiration were \$6.00 per bushel in early July 2007, \$9.32 in early January 2008, peaked at \$12.80 in mid March 2008, and declined to \$8.11 per bushel by contract expiration in May 2008.

¹⁷ Settlement prices for rough rice futures for May 2008 delivery were \$12 per cwt. in early September 2007, and generally kept increasing nearly through expiration in May 2008. Settlement prices reached a high of \$24.46 on April 23, 2008. Global prices also saw record highs, nearly tripling in value from November 2007 to May 2008. According to the *USDA Rice Situation and Outlook Yearbook, February 2009*, “The record-high trading prices [in spring 2008] were largely due to trade restrictions implemented by several major exporters, a declining dollar, and rising overall commodity prices.”

provisions were added to expand the limit to \$0.75 and \$1.15 per cwt. if the preceding day's settlement price closed at limit up or limit down.

- Corn, soybeans, soybean meal, soybean oil, and oats are listed for trading on CBOT. These prices experienced substantial increases over the 2007-2008 crop year, particularly in the Soybean complex.¹⁸ The May 2008 expiration for soybeans, soybean meal, and soybean oil, each hit all-time highs on March 3, a day of particular volatility in the cotton market.
- In response to the higher prices and increased price volatility, on March 7, 2008 CBOT submitted rule amendments to expand the base price limits for Corn to 30¢ per bushel (from 20¢), for soybeans to 70¢ per bushel (from 50¢), and for soybean oil to 2.5¢ per pound (from 2¢). CBOT also introduced expanded price limits for corn, soybeans, soybean meal, soybean oil, and oats, providing for 2 subsequent increases of roughly 50% each over the existing limit.¹⁹ Prior to the amendments there was only a base price limit for each of these contracts. DMO approved the new limits on behalf of the Commission on March 19th.

4. Open Interest Held by Index Traders and Cotton Merchants in Early March 2008

During the week of March 3rd, index traders held approximately 38% to 41% of the long open interest in the May futures contract. This long open interest was not materially larger than in comparable time periods in the past, and in some cases was smaller than it had been in comparable time periods. During that same week, cotton merchants held 68% to 70% of the short open interest in the May futures contract. This short open interest was generally at the same level as in comparable time periods, but was larger than it was during the same week in 2007.

Index traders holding a substantial portion of the May long open interest did not sell any significant amount of cotton futures while prices were spiking.²⁰ Specifically, from March 3rd through March 5th, index traders accounted for the sale of 1.9% of the volume of May futures contracts, 4.4% of the volume of July futures contracts, and 1.3% of the volume of December futures contracts. In addition, index traders are typically not active in the option market. This remained true between March 3rd and March 5th, when index traders accounted for only 0.81% of the volume of all call options sold.

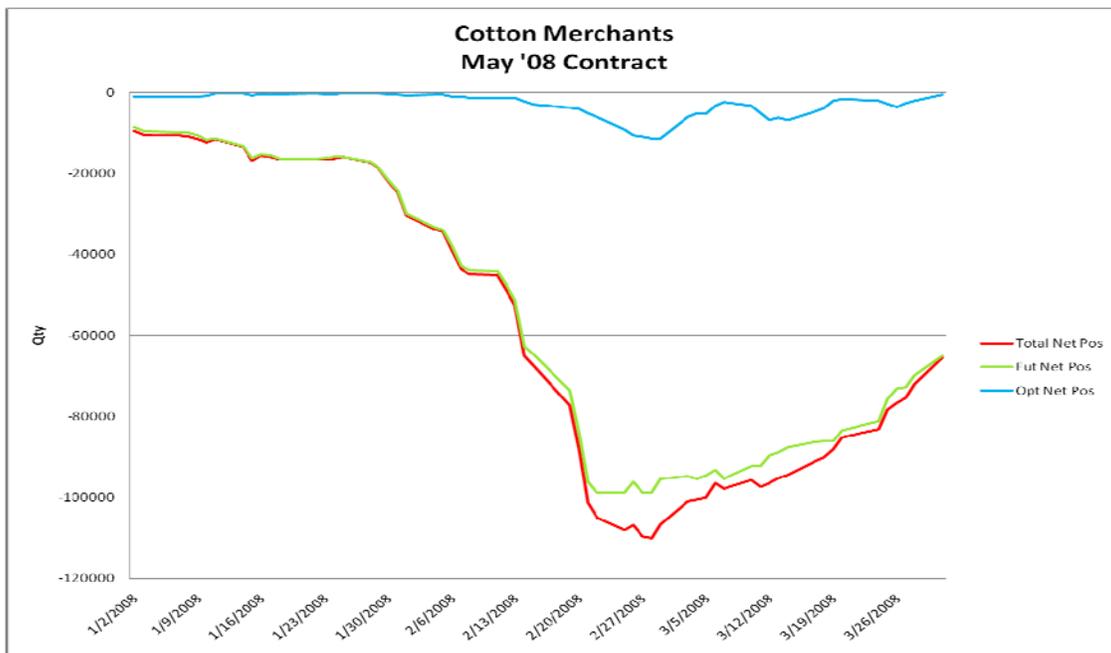
¹⁸ Soybeans for May 2008 delivery were \$9.40 per bushel in early September 2007, peaked at \$15.60 on March 3, 2008, and declined to roughly \$13.00 per bushel in May 2008. Soybean meal for May 2008 delivery was \$288 per ton in early October 2007, peaked at \$383 on March 3, 2008, and declined to roughly \$348 in May 2008. Soybean oil for May 2008 delivery was 41¢ per pound in early October 2007, peaked at 70.82¢ on March 3, 2008, and declined to approximately 61¢ in May 2008. Oats prices for May 2008 delivery were \$2.80 per bushel in early July 2007, peaked at \$4.45 on March 3, 2008, and declined to \$4.05 in May 2008. Corn for May 2008 delivery was \$4.00 per bushel in early November 2007, and generally increased through May to roughly \$6.00 per bushel.

¹⁹ The corn limit increases from 30¢ to 45¢ to 70¢ per bushel; the soybean limit increases from 70¢ to \$1.05 to \$1.60 per bushel; the soybean meal limit increases from \$20 to \$30 to \$45 per short ton; the soybean oil limit increases from 2.5¢ to 3.5¢ to 5.5¢ per pound; and the oats limit increases from 20¢ to 30¢ to 45¢ per bushel.

²⁰ Index traders also did not buy significant quantities of May, July or December futures.

Analysis of index traders' activity over the two years prior to the week of March 3rd indicated that their trading activity (or lack thereof) during the week of March 3rd was not unusual. Index traders as a group do not alter their cotton trading strategy on a daily or weekly basis to react to new market information.²¹ The primary reason for index traders' price insensitive trading is that the index swap agreements they offer to clients typically have a specific time component.²² Because index traders' futures positions hedge the risk exposure from their swap agreements, decisions to establish and liquidate futures positions are determined by the duration of their swap agreements, not by new market information.²³

Many of the cotton merchants owned significant quantities of physical cotton. These physical holdings prompted merchants to establish substantial short futures positions to hedge the price risk associated with the physical positions. The cotton merchants generally established these short positions throughout February 2008. As of March 3rd, merchants held approximately 69% of the short open interest in the May futures contract, 64% of the short open interest in the July contract, and 70% of the short open interest in the December contract. Merchants increased short positions significantly in mid-February and reduced positions in the first week of March. The six largest merchants' positions in the May contracts were:

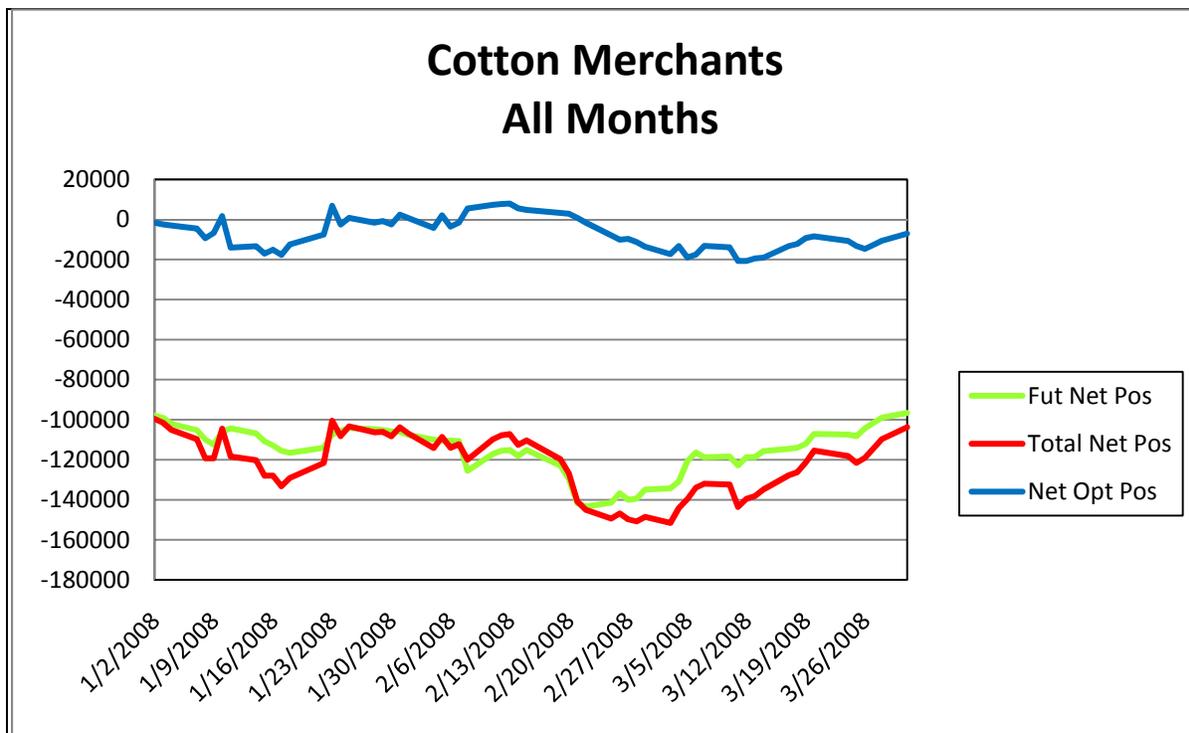


²¹ Several index traders provided sworn testimony and described their trading to be “price insensitive.”

²² According to testimony of index traders, the majority of index swap agreements bought and sold have a term, or tenor, of a month. These month-long swap agreements generally reset automatically, unless the client instructs otherwise. The prevalence of month-long swaps was a recent occurrence due to credit concerns. In prior years, clients preferred year-long swap agreements. In addition to month-long and year-long swaps, some index traders offer their clients swap agreements for periods shorter than a month, although this product is not prevalent.

²³ When the hedge is for a period of time extending over several months, the index trader will reduce its positions in the nearby month as the expiration of that futures contract approaches, and simultaneously increase its position in the next most actively traded month. This pattern is known as a “roll” and usually takes 3 to 5 days to complete.

Further, as a group, merchants were short across all contract months leading up to and including the week of March 3rd. Their aggregate positions across all contract months were:



In addition to their futures market activity during the week of March 3rd, merchants were very active in the option market while the futures market was locked limit up. On March 3rd merchants accounted for 71.5% of the volume of the largest ten buyers of May call options and 46.5% of the volume of the largest ten buyers of December call options.²⁴ On March 4th they accounted for 53% of the volume of the largest nine buyers of May call options and 68% of the volume of largest eight buyers of December call options.²⁵ Thus, cotton merchants contributed to the increased activity in the option market during the week of March 3rd, where volumes were substantially higher than they had been in previous weeks. Those volumes were:

²⁴ Total volume on 3/3/08 for May call options was 15,556. The largest ten buyers accounted for a volume of 11,076, or 71.2% of the total volume. Total volume on 3/3/08 for December call options was 42,724. The largest ten buyers accounted for a volume of 26,494, or 62% of the total volume.

²⁵ Total volume on 3/4/08 for May call options was 20,210. The largest nine buyers accounted for a volume of 9,609, or 47.5% of the total volume. Total volume on 3/4/08 for December call options was 36,533. The largest eight buyers accounted for a volume of 20,970, or 57.4% of the total volume.

Week of March 3-7, 2008

Date	Volume	Open Interest
3/3/2008	99,538	483,151
3/4/2008	139,662	572,063
3/5/2008	77,373	603,462
3/6/2008	116,131	640,756
3/7/2008	57,108	648,038
Total	489,812	

Week of Feb 25-29, 2008

Date	Volume	Open Interest
2/25/2008	53,100	417,089
2/26/2008	41,140	417,716
2/27/2008	23,651	423,952
2/28/2008	35,881	432,816
2/29/2008	57,246	443,895
Total	211,018	

Week of Feb 19-22, 2008

Date	Volume	Open Interest
2/19/2008	11,742	353,366
2/20/2008	23,903	361,216
2/21/2008	43,268	377,315
2/22/2008	55,920	404,300
Total	134,833	

Week of Feb 11-15, 2008

Date	Volume	Open Interest
2/11/2008	27,172	328,503
2/12/2008	14,662	333,090
2/13/2008	7,244	335,353
2/14/2008	20,420	342,890
2/15/2008	20,203	349,191
Total	89,701	

5. Cotton Futures and Option Contract Price Increase

The cotton futures market experienced extreme price volatility in the period between February 21, 2008 and March 19, 2008. Virtually every trading session was marked by wide

swings in prices and heavy trading volume. On February 20th, the very actively traded May 2008 cotton contract settled at 72.27¢ per pound. By March 5th it reached a high of 92.86¢ per pound, and by March 19th the price was down to 72.02¢ per pound. Of the 20 trading sessions in this period, the May contract settled at limit up four times and at limit down five times.

During this period of volatility, cotton merchants' margin financing arrangements became critical. Cotton merchants, a group substantially short cotton futures contracts, generally establish lines of credit to finance margin payments. It appears that the cotton merchants tend to use a relatively small group of banks for their lines of credit, and that this small group of banks also extends lines of credit to commercial entities trading other agricultural commodities. It also appears that while no universal method is used by the banks to determine a particular cotton merchant's line of credit, variables such as the value of the merchant's physical cotton and capital are incorporated into the analysis of how much credit to extend.

In light of increasing prices, during the last week of February 2008, and in some cases earlier, cotton merchants became concerned about whether their lines of credit were sufficient to cover margin payments in the event cotton futures contract prices continued to rise. Many merchants reached out to their banks to work on increasing their lines of credit. As a result, in a time period of broad increases in agricultural commodity prices and increasing margin calls throughout the agricultural markets, a small group of banks was being asked to substantially increase credit lines for cotton merchants. A complicating factor was that while cotton futures contract prices rose, physical cotton prices did not rise proportionately. This resulted in the value of merchants' collateral not keeping pace with their potential financing needs and caused additional pressure and anxiety for some merchants. Ultimately, however, many merchants obtained increased lines of credit, but the lines of credit had specific ceilings.

Leading up to the week of March 3rd, merchants were keenly aware of their financing limitations and the impact that failing to meet margin requirements would have on their positions. Some merchants also recognized that ICE Clear U.S. could use option prices to calculate margin if the futures market locked limit up. As a result, according to sworn testimony obtained from several merchants, they were anxious throughout the weekend before March 3rd, fearing the high margin calls that would result from continuing price increases in the cotton futures contract. As a result, by the early morning of March 3rd, a substantial number of merchants with short positions all sought to reduce their short exposure.

On Monday March 3rd, the May futures contract opened at 81.86¢ per pound, an already high price for cotton futures.²⁶ Trading began at 1:30 a.m. and the price rose to the limit up price of 84.86¢ per pound at 4:33 a.m., 4:38 a.m., 6:40 a.m., and again at 6:48 a.m.²⁷ After reaching limit up at 6:48 a.m., the price remained locked limit up for the rest of the day.

²⁶ The 81.86¢ per pound settlement price on February 29, 2008 was more than 52% higher than the 53.82¢ per pound settlement price of the May 2007 contract one year earlier (February 27, 2007). Further illustrating the price increase in 2007 are that the May 2007 contract expired at 46.70¢ per pound and the December 2007 contract expired at 58.10¢ per pound.

²⁷ As noted earlier, in March 2008, the price limit for the ICE U.S. cotton futures contract was 3¢ per pound from the previous day's close. When the market reached 3¢ above the previous day's close, the market is "limit up" and

The number of traders active in the early morning hours of March 3rd was relatively high. Between 1:30 a.m. and 2:00 a.m., 46 different traders transacted May 2008 futures contracts, compared to an average of 33 traders during the same period on the previous ten trading days. Between 2:00 a.m. and 3:00 a.m., 20 different traders transacted May 2008 futures contracts, equal to the average number of traders during the same period on the previous ten trading days. During each of the next two hours the numbers of different traders who transacted May 2008 futures contracts were 45 and 43, respectively, compared to averages of 21 and 17 during the same periods on the previous ten trading days. In total, about 3,100 contracts were traded in the three most active contract months (May, July and December) from 1:30 a.m. to 5:00 a.m. This compared to an average of about 1,225 contracts on the previous ten trading days.

Once the futures contract price locked limit up at 6:48 a.m., trading volume in the May 2008 contract diminished significantly. The total volume for the May 2008 futures contract on March 3rd was 7,565 contracts. On the previous trading day, the volume was 26,098 contracts.

Unable to trade cotton futures contracts above the limit up price, market participants, including cotton merchants, turned to the option market to reduce their short futures exposure. This contributed to the increase in option volume described earlier. Reduction of their short exposure could be achieved by establishing synthetic long futures positions or by simply purchasing call options.²⁸ In order for the merchants to successfully reduce short futures exposure through the purchase of synthetic long futures or the purchase of call options, however, someone had to be willing to sell synthetic futures or call options. It appears that during this time of extreme volatility and a locked limit up futures market, few market participants were willing to sell synthetic futures or call options at the prevailing prices.

Typically, floor brokers/traders in the cotton option market provide a certain level of liquidity. In doing so, they will usually hedge their option exposure by taking positions in the futures market. However, while the futures market was locked limit up, they could not hedge their option exposure in their typical manner. As a result, when merchants came to the option market after the futures market was locked limit up, floor brokers/traders did not accept the merchants' bids until the bids were sufficiently attractive to take on the increased exposure of a short position without a hedge in the futures market. This hesitancy to accept bids resulted in an

cannot trade any higher. When the market reached 3¢ below the previous day's close, the market is "limit down" and cannot trade any lower. If the price rose above 84¢ per pound, the price limit increased to 4¢ per pound.

²⁸ A synthetic long futures position is created by purchasing a call option and selling a put option for the same contract month at the same strike price. The synthetic price is determined by choosing the option strike that is closest to the futures settlement and then taking the difference between the call premium and the put premium. That premium is added to the strike price to determine the synthetic price. As an example, on March 3rd, the May cotton contract settled limit up at 84.86¢. The May call had a premium of 11.27¢ while the May put had a premium of 2.41¢. The difference was 8.86¢. The 8.86¢ difference is added to the strike price of 85¢ to yield a synthetic price. A long call makes money on the upside, just like a long futures contract. A short put loses money on the downside, just like a long futures contract. In addition to these strategies, certain cotton merchants purchased puts during the week of March 3rd. Going long puts increases one's short position. The rationale for such a strategy is either to hedge price risk associated with a long physical position in cotton without the risk associated with a short futures position, or to speculate on the price of cotton options, anticipating that it will decrease. It appears that certain cotton merchants purchased puts to hedge while others were engaged in a speculative strategy.

upward spiraling of option prices to a level sufficiently attractive for floor brokers/traders to enter such a volatile market.²⁹

In addition to the floor brokers/traders being reluctant to immediately enter the option market given the volatile conditions, other new entrants were slow to enter the option market to provide liquidity. There is a general presumption that if the price of a contract moves sufficiently, the volatility will attract new entrants into a market seeking to earn a profit. This general presumption did not bear out until March 5th, when some new entrants were finally attracted into the option market and accounted for a small amount of trading. Moreover, consistent with their usual trading patterns, index traders did not enter the option market merely because prices were rising.

On March 3rd, when the market was locked limit up, ICE Clear U.S., consistent with ICE U.S. rules (and anticipated by some merchants), used the option contract price (“synthetic futures price”) as the basis for the mark-to-market calculation for open futures positions. That option price was 93.90¢ per pound, and amounted to mark-to-market being calculated using a price that was 12.04¢ per pound higher than the previous day’s settlement price.³⁰ As a result, merchants were required to meet significant mid-day and end of day margin calls.

On March 4th, the May 2008 cotton futures price continued to increase. The market opened at 1:30 a.m. at the limit up price of 88.86¢ per pound and remained locked limit up until 11:37 a.m. The price briefly declined and locked limit up again at 11:58 a.m., where it remained for the rest of the day.

Trading activity on March 4th was similar to that of March 3rd. The trading volume in the May cotton futures contract was severely restricted, reaching only 18,672 contracts. Once again, when the futures market locked limit up, market participants, including the merchants, turned to the option market. Volume in the option market was higher than it had been on March 3rd, and at one point during the day, the synthetic futures price peaked at \$1.09 per pound.³¹

²⁹According to Enforcement’s consulting expert, one contributing cause to the cotton merchants heightened need to reduce their short exposure was the effect of their option positions’ negative gamma. Negative gamma refers to a position change of delta as the market price goes against a trader. The net delta is the overall exposure to changes in the value of the futures. If one is short calls, the delta gets shorter and shorter as the market moves higher in price. If, for example, the market is trading at 75¢ and the delta of the 90¢ call is .10, a trader could sell ten calls and hedge the position by buying one future. If the market rallied to 90¢, the trader would need to buy five futures to hedge the position. The trader who does not or cannot adjust becomes short four futures. The short option positions with negative gamma caused some of their holders to get significantly shorter as the market rallied. Thus, as the market moved higher on March 3rd and 4th, cotton merchants who were short calls in order to hedge their physical positions saw their net positions become significantly shorter. This is evident in the net deltas contained in Value-at-Risk Reports provided to Enforcement by ICE U.S. For those cotton merchants that did have an established short option position as the option prices increased, the shorts’ positions were becoming increasingly short. This made the shorts more desperate and increasingly willing to increase their bids in the option market.

³⁰ In addition to the May 2008 futures contract, the July, October, and December futures contracts for 2008 and the March, July, and December 2009 futures contracts all settled at prices derived from synthetic futures due to those contracts locking limit up on March 3rd.

³¹ Open interest in cotton options (all months) climbed from 443,895 on February 29th to 483,151 on March 3rd, and to 572,063 on March 4th, an increase of over 28% in two days.

On March 4th, ICE Clear U.S. again used the synthetic futures price derived from the option market as the price for mark-to-market purposes. The price used for the May cotton future was 90.10¢ per pound. Moreover, given the volatile market conditions, on March 4th, ICE Clear U.S. also increased the initial and maintenance margin levels from \$1,500 per contract to \$2,500 per contract.³²

On March 5th, the May 2008 futures price reached the limit up price of 92.86¢ per pound by approximately 6:05 a.m. The market remained limit up for approximately the next two hours, and was volatile throughout the rest of the day, reaching limit up again several more times. Ultimately, the price declined, settling at 89.28¢.

On March 6th and 7th, the market went limit down in the May 2008 cotton futures contract, closing at 85.28¢ per pound and 81.28¢ respectively. The 81.28¢ closing price on March 7th was lower than the closing price of 81.86¢ per pound one week earlier. This amounted to a complete reversal of the March 3rd, 4th, and 5th price spike.

6. The Role of Margin and Price Limits

ICE Clear U.S. clears all futures transactions entered on ICE U.S. Transactions must be cleared through an ICE Clear U.S. member (“clearing member”). ICE U.S. members can be clearing members or non-clearing members. If, however, an ICE U.S. member is not also a clearing member, it must clear its trades through a clearing member.

The initial and maintenance margin requirements for cotton futures transactions is set by ICE Clear U.S. and is designed to protect the financial integrity of the clearinghouse as the guarantor of all trades.

In March 2008, the rules of ICE U.S. required it to conduct mark-to-market calculations using synthetic prices when the futures contract locked limit up. A mark-to-market calculation involves marking all open futures positions to the current market price for the relevant futures contract and determining whether each open futures position has gained or lost money when compared with the last mark-to-market calculation. Specifically, in March 2008, Rule 5.03(b)(v) stated that, “For purpose of margining any account carrying positions in Cotton and FCOJ Futures and Option Contracts, the net liquidating value of each account at the close of trading on any Business Day on which trading ceases because of the application of price limits shall be computed by using as the Settlement Price such synthetic price as the Exchange and/or the Clearing Organization shall determine.”³³

Daily price limits have long been a feature of trading in agricultural futures markets. Currently price limits are employed in the markets for corn, wheat, and the soybean complex on the Chicago Board of Trade and for frozen concentrated orange juice (FCOJ) and cotton on ICE

³² On March 7, 2008, ICE Clear U.S. again increased this amount to \$3,500 per contract. Similar margin increases were effectuated by other exchanges for grain contracts. Thereafter, on June 2, 2008, ICE Clear U.S. reduced initial margin levels to \$1,800.

³³ The June 11, 2008 self-certified amendment to Rule 5.03(b)(v) changed the word “shall” to “may”.

U.S. These limits are in the form of daily limits, in that trading is not permitted to take place at prices above an upper limit or below a lower limit for the remainder of the day. Price limits, in the form of “circuit breakers,” also exist in the stock index futures markets. Unlike daily limits, circuit breakers shut down trading for prescribed periods during the day, after which trading can once again resume. Various reasons are given for the use of price limits, including giving market participants time to reevaluate market conditions in a chaotic situation and to give the clearinghouse time to collect additional margin to protect itself against customer default.

The normal practice for setting a limit is to fix it over time so that traders have a clear understanding of where the limit is set from day to day. As prices rise or fall, however, the limit will become more or less constraining in percentage terms. As noted earlier, the daily price limit in use for the cotton futures market was a limit of 3¢ up or down from the previous day’s settlement price.³⁴ At the close of trading on February 29, 2008 this limit represented a percentage price change of approximately 3.8%. As shown in the Table below, this limit was somewhat narrower as compared to other major agricultural markets.

Price Limits in Absolute Terms and Percentage of Nearby Contract Futures Prices for Selected Agricultural Markets as of February 29, 2008		
Commodity	Price Limit	Percentage of Current Price
CBOT Corn	30¢/bushel	5.5%
CBOT Soybeans	70¢/bushel	4.6%
CBOT Wheat	60¢/bushel	5.6%
ICE US Cotton	3¢/pound	3.8%

While the price limit in the cotton market tends to be lower than limits in other agricultural markets, it is also the case that the volatility of cotton prices generally tends to be lower. For instance, from March 2007 through February 2008, the average absolute percentage daily change in cotton prices was 0.99% as compared to 1.36% for corn, 1.06% for soybeans, and 1.75% for wheat. In addition, during the same period, the March 2008 cotton contract closed at the minimum limit price on three occasions, the March 2008 corn and soybean contracts never closed at their limits, and the March 2008 wheat contract closed at its limit five times, all during the final week of February 2008. Thus, while the cotton price limit is narrower than those in other agricultural commodities, it did not appear to be more constraining than the limits in other agricultural commodities.

³⁴ As previously noted, when the price of cotton moved to 84¢ per pound, the price limit could be adjusted to 4¢, representing a percentage of 4.76%.

One question that has been raised with respect to price limits is the possibility that limits can act as a magnet for prices. One theory is that as prices rise (fall) toward an upper (lower) limit, traders fearing that they will be locked into a losing position exit the market, thereby causing prices to accelerate to the limit. For example, a trader holding a short position may be inclined to liquidate, or buy back, the position if he thought that an upper limit might be hit and that further losses could accrue while trading was halted. Such actions would tend to induce buying among these traders causing upward pressure on prices. An alternate theory, however, suggests that limits can act as a buffer to price movements. Under this theory, traders having a particular view of the market may not trade because limits could potentially limit their gains. For example, a trader who believes that prices are trending upward will want to be long in the market. However, within the day, the profit potential on the position is small due to the limit, while the potential for a large loss is significant. As a result, traders who might otherwise go long remain out of the market, leaving relatively more bearish traders in the market.³⁵

In the case of cotton futures trading during the first days of March 2008, it was not the case that the price discovery process was shut down. In fact price discovery continued in the option market, which remained open with greater trading volume. On March 3rd, the volume of option contracts traded jumped to 99,538 contracts from an average of about 42,000 contracts per day in the previous week. On March 4th, the volume jumped further to 139,662 contracts. In terms of pricing, the implied futures price derived from option prices indicated that the May futures price on March 3rd settled at 93.90¢, or 9.04¢ above the limit price. Because the option market continued to trade without a limit, and thus presumably free of any limit effect, and the price was significantly above the limit, it seems unlikely that the price limit in the futures market operated with any magnet effect.

What is potentially more problematic is the concern that traders were locked out of the futures market, thereby unable to close out positions, while being required to put up additional margin at a price significantly above the limit price. In the case of a contract that hits a price limit, obviously the clearinghouse does not know the true price of the contract because price discovery has ceased in that contract. On March 3rd and again on March 4th, ICE Clear U.S. used prices from cotton options to conduct the mark-to-market calculation. Lacking active trading in the futures contract itself, this was consistent with the rule that required the clearinghouse to set margin assessments in such a manner, as the option market represented the most actively traded alternative to the actual futures contract.³⁶

³⁵While various theories exist for why limits should or should not act as magnets, the empirical literature on the topic has not conclusively demonstrated one way or the other that a limit effect of any kind exists. As examples, a study by Marcelle Arak and Richard E. Cook, *Do Daily Price Limits Act as Magnets? The Case of Treasury Bond Futures*, 12 (1) *Journal of Financial Services Research* 5 (1997) found that limits in the Treasury bond futures markets did not produce a magnet effect, while a study by David D. Cho, Jeffrey Russell, George C. Tiao and Ruey Tsay, *The Magnet Effect of Price Limits: Evidence from High-Frequency Data on Taiwan Stock Exchange*, 10 *Journal of Empirical Finance* 133 (2003), found that limits on stocks traded on the Taiwan Stock Exchange did produce a magnet effect. One of the difficulties in determining whether a magnet effect exists or not is that the limit cuts off the price discovery process, thereby making it difficult to assess whether a limit was hit because the true price lay outside the price limit or because of the effect of the price limit itself.

³⁶ In addition to the option market, trading continued in the expiring March 2008 contract. On March 3rd, this contract settled at 86.88¢ per pound, 9.06% over the previous day's closing price. It should be noted, however, that

Had ICE Clear U.S. used the futures contract limit price to calculate the mark-to-market, the financial integrity of the clearinghouse could have been negatively affected if prices remained high or went even higher. On March 3rd, the difference between the limit price of 84.86¢ and the implied futures price of 93.90¢ that was used to calculate the mark-to-market was 9.04¢ per pound, or \$4,520 per contract. While this represented a significant amount of additional funds for a customer on the losing side of a trade to post, it likewise represented a significant amount of funds for the clearinghouse not to collect if prices had remained high or gone higher.

Directly related to the issue of price limits and margin calls is the effect that these calls have on traders who may not be able to offset their futures position in a market that is locked limit up. It appears that a number of cotton merchants holding significant short futures positions, and concerned about their lines of credit to maintain those positions, desired to offset at least a portion of their positions. In some cases, these merchants established long positions in the option market—i.e. a synthetic futures position—which created an economically offsetting position, essentially protecting against further losses. In other cases, merchants were able to offset futures positions prior to prices hitting the limit. Finally, others held their futures positions and posted additional margin.

While each of these strategies represented a different approach to dealing with a short position that had accumulated large losses, there are significant differences between them. In the cases of merchants who either offset their futures position directly or through synthetic futures positions, they essentially locked in any losses that had accrued on the position. In addition, by closing out or neutralizing their position, they had essentially lifted their hedge against their cash market position. In the case of merchants who posted additional margin, those traders continued to face the risk of rising market prices, but maintained their hedge against falling prices.

It is not clear that hitting the price limit or the combination of hitting the price limit and using the implied futures price to set margins, created additional hardship or losses that otherwise could have been avoided given the state of the market at that time. In reviewing the price activity of March 3rd and 4th, clearly prices at the limit on March 3rd were below what the market believed to be the true price, based on the higher prices in the option market and the subsequent upward price limit move on March 4th and the beginning of March 5th. Thus, had the limit not been in effect, traders seeking to buy futures would have had to pay a higher price than the limit price of March 3rd. Moreover, closing out positions would have locked in losses, which presumably would have reduced a trader's capital that could have been posted as margin. Therefore, it is not clear that reducing a position would allow a party's financing to cover additional losses; it would only have the effect of eliminating an exposure to additional futures losses.

Overall, there is no evidence that the existence of price limits, coupled with the use of synthetic futures prices to calculate mark-to-market, resulted in an improper market price being

only 24 March 2008 contracts traded that day, making that price fairly unreliable. Nevertheless, applying this percentage change to the May 2008 contract would have yielded a settlement price of 89.28¢ per pound as compared to the price of 93.90¢ derived from option trading, but still nearly 5¢ greater than the limit price that day.

used to calculate mark-to-market. Certainly from the perspective of traders holding losing short positions, the use of a settlement price above the limit price worked against their immediate financial interest. However, from the perspective of the clearinghouse and financial integrity of the market, there would have been additional risk of default taken on if the limit price, which was obviously not a true market price, was substituted for a clearly identifiable market price that was above the limit price.

7. Causes of the Price Increase on March 3rd – March 5th

In large measure, the volatile price moves experienced in late February and early March 2008 in the cotton market reflected a multitude of changing expectations regarding fundamental and economic factors. Commodity futures markets are anticipatory by nature, that is, the current prices in the market reflect traders' views on anticipated events that can affect the future supply or demand for the commodity. Changes in these expectations will result in changes in futures prices. When traders expect a greater probability of the occurrence of an event that would decrease (increase) the supply of the commodity in the future, that factor will be reflected in the form of higher (lower) futures prices now. Similarly, when traders expect a greater probability of the occurrence of an event that would increase (decrease) the demand for the commodity in the future, that factor will be reflected in the form of higher (lower) futures prices now.

Given the magnitude and seriousness of the fundamental and economic events occurring in February and March 2008, coupled with the overall uncertainties that confronted the cotton futures market, it is not surprising that cotton futures prices experienced volatility. Uncertainty and multiple events occurring in a short period of time can result in heightened price volatility as traders try to sort out factors that are important from those that are not.

Cotton futures prices were rising in early 2008 along with prices of nearly all agricultural commodities. As prices continued to rise, uncertainty about availability of credit prompted many cotton merchants to seek to reduce their short positions, and many did so on the morning of March 3rd. The pressure resulting from traders seeking to reduce their short exposure in an abbreviated period of time resulted in an increase in the price of cotton futures contracts, until the market locked limit up at 6:48 a.m. Uncertainty then carried over into the option market when the option pit opened at 10:30 a.m., leading to prices spiraling upward as merchants sought to reduce short exposure in ever larger numbers, opposite floor brokers and floor traders reluctant to jump right into such an uncertain market, with no other market participants standing by to fill that void.

Merchants that did not seek to reduce, or that did not sufficiently reduce their short exposure then received very large margin calls when ICE Clear U.S., consistent with ICE U.S. rules, calculated mark-to-market based on option prices. These very large margin calls further increased the urgency with which some merchants sought to reduce their short exposure (to avoid even larger margin calls), again leading to prices spiraling even higher. Ultimately, this trading pattern repeated itself, resulting in ever higher prices until the afternoon of March 5th when prices finally began to decline.

8. Enforcement Investigation

After the market events of the week of March 3rd, Enforcement began an investigation to determine whether cotton prices had been manipulated. Specifically, Enforcement's investigation sought to determine whether there was evidence of a manipulative scheme by one or more market participants in the futures, options, OTC, and/or cash markets.³⁷ The investigation focused on whether trading activity in those markets was designed to influence the price of cotton futures and options and whether trading activity was indicative of a market participant liquidating positions to profit from increased prices.

During its investigation, Enforcement and its expert analyzed who stood to gain from price increases and the various ways that the gain could have been achieved. To obtain the necessary information, Enforcement attorneys and investigators issued demands for information and documents to Commission registrants and "Do Not Destroy" letters to numerous cotton market participants informing them that an investigation had begun and ordering them not to destroy any documents. Enforcement obtained from ICE U.S. selected cotton trade registers for the period January 1, 2008 to March 31, 2008 for analysis by Enforcement staff and its consulting expert.³⁸ Based on that analysis, Enforcement issued demands for account identifying information to clearing members, and later issued subpoenas to fifteen market participants to determine the basis for their trading activity at various times in the first quarter of 2008. Many of them submitted to interviews and testimony under oath.

Potential Manipulation of Cotton Futures Prices

Enforcement analyzed whether a market participant built a significant long position in futures and/or options with the intent to cause an increase in the price of cotton futures contracts. Such intentional activity would likely be followed by liquidation at or near the peak price in order to profit from the price increase.

As part of its analysis, Enforcement focused on the intraday trading in the May 2008 cotton futures contract during critical time periods of the ten largest longs and of all market participants who traded 100 or more contracts.³⁹ In addition, Enforcement focused on all of the intraday trading of the ten largest longs and examined whether any of them liquidated futures

³⁷ To prove that the price of a commodity traded in interstate commerce or the price of a futures or options contract has been manipulated, Enforcement must establish that: (1) the accused had the ability to influence market prices; (2) the accused specifically intended to influence market prices; (3) an artificial price existed; and (4) the accused caused the artificial price. *CFTC v. DiPlacido*, CFTC No. 01-23, Comm. Fut. L. Rep. P30970, 208 WL 4831204 (C.F.T.C.) (Nov. 5, 2009), *aff'd and modified on other grounds*, 2009 WL 3326624 (C.A.2) (Oct. 16, 2009).

³⁸ A trade register contains all futures and options trades for all months' contracts for a particular day.

³⁹ For purposes of this analysis, critical time periods are the periods during and immediately prior to significant price increases in the May futures contract. On March 3rd, the critical time periods were between 4:00 a.m. to 5:00 a.m.; and 6:00 a.m. to 7:00 a.m. On March 4th, the critical time periods were between 1:30 a.m. to 1:31 a.m. (the opening); 1:30 a.m. to 2:30 a.m.; and 11:40 a.m. to 12:00 p.m. On March 5th, the critical time periods were between 5:00 a.m. to 6:06 a.m.; 10:45 a.m. to 11:30 a.m.; and 11:45 a.m. to 12:05 p.m.

and/or option positions throughout the week of March 3rd (which would be potential evidence of the intent to realize a profit from rising prices).

Between March 3rd and March 7th, the ten largest longs held between:

- 42% and 46% of the long open interest in the May cotton futures contract;
- 29% and 30% of the long open interest in the May cotton futures and option contracts combined;
- 20% and 29% of the long open interest in the July cotton futures contract;
- 9% and 15% of the long open interest in the July cotton futures and option contracts combined;
- 21% and 23% of the long open interest in the December cotton futures contract; and,
- 9% and 12% of the long open interest in the December cotton futures and option contracts combined.

On March 3rd, the ten largest longs accounted for 43% of the long open interest in the May cotton futures contract at the beginning of the day and again at the end of the day. Few of the largest longs in the May futures and option contracts traded May 2008 futures contracts during the critical time before 4:38 a.m. and none of the largest longs traded May 2008 futures contracts between 6:00 a.m. and 7:00 a.m. In addition, few market participants traded more than 100 contracts during the critical time periods. Finally, viewing the day as a whole, none of the ten largest longs traded in the May, July or December futures or option contracts to any significant degree.

On March 4th, none of the ten largest longs in the May futures and option contracts traded May 2008 futures contracts during critical time periods. In addition, a total of eight market participants traded more than 100 contracts during the critical time periods. Finally, viewing the day as a whole, few of the ten largest longs engaged in any significant futures and option trading.

On March 5th, few of the ten largest longs in the May futures and option contracts purchased May futures contracts during critical time periods. In addition, a total of eleven market participants traded more than 100 contracts during the critical time periods. Finally, viewing the day as a whole, none of the ten largest longs engaged in any significant futures and option trading.

After analyzing the futures trading activity in the critical time periods and throughout the three days, Enforcement did not detect any unusual or suspicious trading patterns by any market participant that would suggest that they sought to, or had the ability to manipulate the price of cotton futures upward. The data shows that eight of the ten largest longs were inactive during the critical time periods. In addition, traders active in the futures and option markets prior to the futures contract price reaching limit up were generally cotton merchants who held significant net short positions and whose activity appears to be consistent with reducing short positions to limit potential margin calls. Other traders identified in the analysis either also held short positions, traded insignificant volumes overall, traded in a manner that was indicative of scalping, or were basically flat, meaning that they had little motive to manipulate the price of cotton futures.

Accordingly, analysis of the trading activity of March 3rd – 5th did not uncover evidence that any market participant with a long futures position engaged in trading activity to manipulate the price of cotton futures to benefit its long futures position or an option or OTC position.

Potential Manipulation of Cotton Option Prices

In addition to analyzing whether there was evidence that the price of cotton futures contracts was manipulated, Enforcement analyzed whether a market participant manipulated the price of cotton options to benefit an option position. Enforcement determined that it was critical to engage in this inquiry because the cotton futures and option markets are highly interconnected.

While almost all futures and option markets are interconnected, the circumstances surrounding the cotton futures and option markets during the first week of March 2008 underscores the importance of that interconnection. In general, when the futures price reaches limit up, potential sellers of cotton futures may be disinclined to engage in transactions if they believe that the price of cotton futures might increase further the following day. Thus, market participants seeking to reduce their short positions by buying futures may be faced with a lack of liquidity in the futures market. Consequently, many market participants wishing (or needing) to reduce their overall position by buying futures need another means of doing so, such as turning to the option market.

When cotton futures contract prices reached limit up on March 3rd, 4th, and 5th, many futures market participants migrated to the cotton option market to enter option transactions that would reduce their overall short positions. Specifically, many of these participants traded a combination of options known as a synthetic future. The migration to the option market that week caused the volume of cotton option transactions to reach unusually high levels, ultimately reaching a high of 139,662 contracts on March 4th.⁴⁰ In addition to the volume increase, option prices increased as well, with the synthetic futures price peaking at \$1.09 on March 4th.

Enforcement and its expert reviewed option trading to determine whether any market participant:

- established significant option positions prior to March 3rd in order to take advantage of the price increases;
- significantly increased its long option exposure after the futures price locked limit up to drive up options prices even further; and/or,
- offset option positions established prior to March 3rd or after the futures contract price reached limit up.

Enforcement and its expert first identified traders who held long positions in cotton options prior to March 3rd. To identify this group of traders, Enforcement analyzed data from January through March 2008. The analysis shows that during the week before March 3rd, no trader maintained a significant long May, July, or December call option position.

⁴⁰ More than twice as many options contracts were traded during the week of March 3rd than any other week in January and February of 2008. Moreover, options volume in the first week of March 2008 was more than thirteen times greater than that of the first week of March 2007.

Enforcement then sought to identify traders who purchased significant amounts of call options during periods of heightened price volatility to examine their trading activity for potential manipulation.

On March 3rd, when the options pit opened at 10:30 a.m., the futures market had been locked limit up for a few hours. Upon opening, a period of increased volatility in the option market lasted for approximately the first half hour.

Overall, the largest ten buyers of May call options on March 3rd included cotton merchants and floor brokers. The cotton merchants purchased more than 50% of the total volume for the day. Similarly, the largest buyers of July and December call options included floor brokers and cotton merchants.

On March 4th, the period between 10:30 a.m. to 12:00 p.m. was a period of extreme price volatility. During that period, the synthetic futures price moved to a high of \$1.09. Enforcement identified the significant buyers of call options between 10:30 a.m. and 11:00 a.m. and between 11:40 a.m. to 12:00 p.m. From 10:30 a.m. to 11 a.m., none of the ten largest buyers accounted for more than 15% of the buying volume. From 11:40 a.m. to 12:00 p.m., none of the largest buyers engaged in any significant buying.

Overall, the largest nine buyers of May, July, and December call options on March 4th included floor brokers and cotton merchants.

On March 5th, when the futures market was again approaching the limit up price, there was only one significant buyer of calls. Overall, on March 5th the largest ten buyers of May, July, and December call options included floor brokers and merchants.

Finally, Enforcement identified the largest sellers of call options on March 3rd – 5th in order to determine whether any trader was liquidating to realize gains from a previously established position when the price of call options was at its peak.

For March 3rd, Enforcement's analysis first identified significant sellers of May call options. These sellers did not significantly alter their overall positions during the day on March 3rd. Moreover, their trading activity did not make up a significant portion of open interest on March 3rd.

For July call options, which were relatively lightly traded, the largest sellers on March 3rd included merchants, floor brokers, and Commodity Pool Operators ("CPOs"). For December call options, among the largest sellers were merchants and floor brokers.

Similarly, the largest holders of short puts coming into March 3rd did not engage in significant liquidation to realize a profit on that date. The top buyers of puts for May, July, and December were all floor brokers or cotton merchants.

For March 4th, Enforcement identified the largest sellers of May, July, and December call options and found that the largest longs in call options did not significantly alter overall positions during the day on March 4th. Moreover, the trading activity did not make up a significant portion of the volume on March 4th.

In July call options, Enforcement and its consulting expert analyzed trading activity at the price peak on March 4th, and shortly thereafter. While there was some selling of July calls just after the price peak, it did not represent a significant altering of overall positions in a manner that would suggest manipulative activity.

Similar to March 3rd, the largest holders of short puts coming into the day on March 4th did not engage in significant profit taking on that day.

For March 5th, Enforcement analyzed the trading activity of the largest sellers of call options. By March 5th, while the futures market remained locked limit up for a time, the synthetic futures price in the option market dropped significantly from its March 4th peak of \$1.09. Nonetheless, Enforcement and its expert analyzed the March 5th trade register and did not find any indicia of a liquidation to realize gains, which would be indicative of a potential manipulation. The top sellers of calls for May, July, and December were floor brokers and cotton merchants.

Overall, the analysis of option trading activity on March 3rd – March 5th did not uncover evidence that option prices were manipulated. Enforcement found that no entity either established a significant long position or engaged in a significant sale of an existing position. Specifically, Enforcement found that no entity built up a significant position prior to March 3rd, purchased significant quantities of call options during the price increases of March 3rd – 5th, and/or sold call options in significant numbers after the price increase.

Potential Manipulation of the Cotton Physical Market

In addition to the potential that a market participant may have manipulated the cotton futures and/or option prices to benefit a long futures, option, or OTC position, Enforcement analyzed whether a market participant undertook a strategy to benefit a cash/physical position in cotton.

Analysis of trading activity and position data on March 3rd – March 5th did not uncover evidence that the physical cotton price was manipulated. The numerous merchants with large short positions were hedged and held sufficient physical cotton to deliver against their contracts. Thus, they could not be easily squeezed. Even if they did not hold sufficient cotton to deliver, there was no shortage of physical cotton⁴¹ and certificated stocks were rising.⁴² Moreover, although the price of physical cotton did rise during the relevant week, it did not spike with the

⁴¹ There was no apparent shortage of cotton supply prior to the March cotton market event. Domestic cotton supplies were increasing during the first few months of 2008. In January, the USDA revised its estimates of ending stocks upwards to 7.9 million bales, which was nearly 3 percent greater than the previous month. Due to lower exports of cotton stocks, the USDA again revised its estimates of ending stocks upwards in February 2008 by approximately 300,000 bales to an estimate of 8.2 million bales of ending stocks. “World Agricultural Supply and Demand Estimates,” WASDE-455, USDA, 1/11/08 and 2/08/08. <http://usda.mannlib.cornell.edu/usda/waob/wasde/2000s/2008/wasde-02-08-2008.txt>

⁴² Certificated stocks were increasing beginning on February 15th. Certificated stocks on February 15th were 468,896 bales and steadily increased to 620,475 by March 7th. By the end of March 2008, certificated stocks were at 838,486.

futures/synthetic futures price, indicating that there was no supply issue.⁴³ While the basis between the futures/synthetic futures settlement price and the physical/cash price was at 5.00¢ from 2/15/2008 to 2/29/2008, it diverged to 14.04¢ on March 3rd (synthetic settlement of 93.90¢ minus physical price of 79.86¢) and 7.24¢ on March 4th (90.10¢ (synthetic price) minus 82.86¢ (physical price)). Finally, evidence received from various sources confirms that there was no unusual activity in the physical/cash cotton market.

⁴³ Enforcement notes that the physical/cash cotton price series used is the USDA's North Delta price series from the USDA's daily report: USDA Spot Cotton Quotations. The USDA's North Delta price series is partially derived from futures prices. Therefore, this particular physical price tends to move in tandem with the futures price, and the spread, or basis, between the two, stays within a consistent range.