CME Group

I. Conditional Spot-Month Speculative Limit Proposal

Spot-month limits are largely common ground. They are based on tested self-regulatory judgments of exchanges that spot-month limits help to avoid congestion, avoid the circumstances that might invite an attempt to manipulate, and promote convergence of futures and cash markets. Conditional limits for the spot-month must be assessed in the context of the impact on those legitimate goals of the incentive that conditional limits create for traders to exit the physically delivered market in favor of cash settled contracts. The issue is whether conditional limits as have been proposed (or even as exist today) have furthered these legitimate goals. The data we discuss below shows that regulation that induces traders to exit the physically delivered futures market in favor of an identical cash settled contract should be abandoned to avoid decoupling the physical delivery spot market from the forces of price discovery by reducing market volume and increasing price volatility in the most sensitive trading moments in the delivery month. Our data show that, since conditional limits favoring financial markets were implemented, volume in the NYMEX physically-delivered Natural Gas contract during the settlement period on the last trading day declined by 16% and relative volatility increased by approximately 25%.

- **The Conditional Limit is inconsistent with the Commission's stated purpose.**
  - The Commission's stated objective for permitting conditional limits is: "The proposed limit maximizes the objectives, enumerated in section 4a(a)(3) of the Act, of deterring manipulation and excessive speculation while ensuring market liquidity and efficient price discovery by establishing a higher limit for cash-settled contracts as long as such positions are decoupled from large physical commodity holdings and the positions in physical delivery contracts which set or affect the value of cash-settled positions."
  - This bold assertion is unsupported by any empirical evidence, or economic analysis. The analysis provided below forcefully contradicts the rational for conditional limits relied upon in the NPR.
  - There is no logical basis for a Commission regulation that rewards traders for exiting the primary futures market by granting them permission to hold five times the spot limit if they only trade in a different market for the underlying commodity where delivery does not occur.
  - *It is CME Group's position that equivalent spot-month limits for physically-settled and economically equivalent cash-settled contracts, without any conditional component, is the most appropriate and effective means for preserving market integrity and achieving the Commission's stated objectives*.
- **The Commission provides no justification for giving traders in the cash settled contract five times the limit of traders who hold physically delivered futures.**
  - The Commission has never explained the 5x multiplier. Absent a rational, documented basis, it would be viewed as arbitrary and capricious.
  - The Commission's previous analysis demonstrates that physically-delivered contracts and their linked, cash-settled look-a-like contracts each have been found to serve a

price-leading function.[1] The Commission observed that the "prices on the ICE and NYMEX contracts have an *ongoing, linked relationship* that extends not only to the linked settlement price but to prices between the two contracts throughout the trading day."[2] This interdependence means that establishing or liquidating a large position in the cash-settled contract may impact price formation in the physical-delivery contract and allowing much larger speculative positions in the cash-settled contract during the spot-month, while correspondingly draining liquidity from the physical contract, clearly increases the potential magnitude of the impact on the physical-delivery contract.

- **The CFTC's proposed conditional limit is inconsistent with its claim that tight limits in the spot month are effective in deterring or preventing market manipulation, corners and squeezes**.
    - The Commission's proposal permits a speculator to own positions in cash-settled contracts equivalent to 125% of the physical deliverable supply while simultaneously owning 25% of the physical deliverable supply.
    - If the Commission's conclusions respecting the role of position limits were correct; this concession to speculators must be seen as increasing rather than mitigating the risk of potential distortions by increasing the incentive to manipulate the less transparent physical market in order to benefit an outsized position in the cash-settled contract.
    - The Commission does not offer any explanation as to how this decision is consistent with its previous claims, why it is sound regulatory policy or consistent with its statutory objectives.
- **Conditioning the increased speculative position limit on non-participation in the physically settled futures contract is detrimental to the physically delivered contract**.
    - Large speculators are rewarded for exiting physically delivered contracts. This reduces liquidity and exacerbates volatility in the primary price discovery contract to the detriment of participants using the physical-delivery contract for hedging purposes.
    - Additionally, undermining liquidity in the referenced physical-delivery contract simply makes the primary price discovery contract more susceptible to manipulation and sudden price movements during the expiration period.
    - CME Group research indicates that since the current conditional limit was implemented in the natural gas market with the February 2010 expiration, volume in the NYMEX physically-delivered Natural Gas contract during the settlement period on the last trading day declined by 16% and relative volatility increased by approximately 25%.

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[1] *See* Jeffrey H. Harris, Commodity Futures Trading Commission, Chief Economist, Testimony at Hearing to Examine Trading on Regulated Exchanges and Exempt Commercial Markets (Sept. 18, 2007), comparing the price discovery function of the NYMEX physically-delivered Natural Gas futures contract to that of the ICE cash-settled Natural Gas contract.

[2] *See October 2007 "Report on the Oversight of Trading on Regulated Futures Exchanges and Exempt Commercial Markets* Order Finding That the ICE Henry Financial LD1 Fixed Price Contract Traded on the Intercontinental Exchange, Inc., Performs a Significant Price Discovery Function, 74 Fed. Reg. 37988, 37989-90 (July 30, 2009).

II: Volume and Price Analysis from Market Regulation

The table below shows the average volume before the conditional limit was initiated and after it had become effective. CME Group Market Regulation used the seven expirations before the Conditional Limit became effective for the February 2010 expiration, as well as the 17 expirations with the conditional limit effective.

Volume

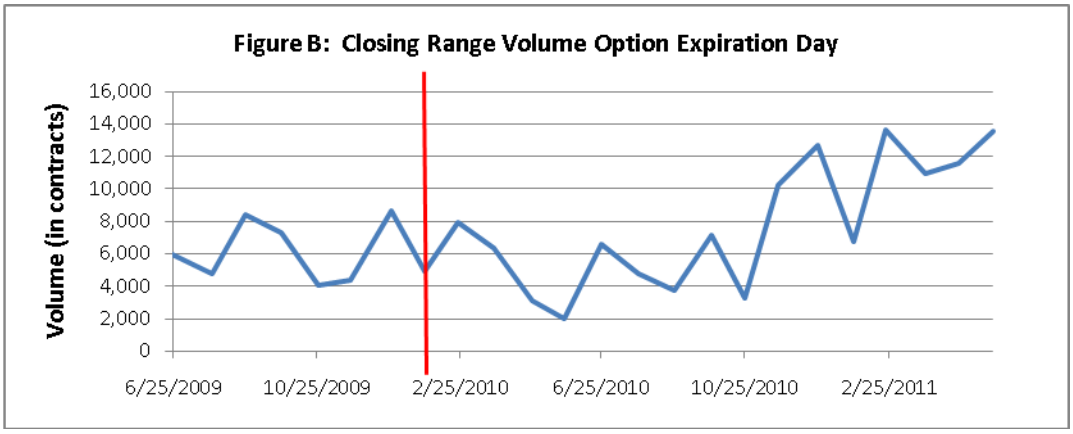
Analysis shows that the Average Volume on the Last Trade Day for each contract during the 30 minute settlement period has decreased from an average of 8,242 to 6,919. This is a decrease of 1,323 contracts traded and approximately a -16.1% change.

Average volume on the day before expiration, which is the options expiration day, has increased by 1,128 contracts since the conditional limits were put in place. Note that the volume traded during the closing range on options expiration day has also grown significantly during the most recent four expirations as shown in Figure B.

Additionally, analysis shows that the average total daily volume has decreased from 56,026 to 54,625 on average since the Conditional Limit became effective. This represents a decrease of 1,401 contracts traded, around a 2.5% change.

Figure A: Volume Analysis for Natural Gas (July 2009 – June 2011)

	Volume Analysis	Before Conditional Limit	After Conditional Limit	Change Since Instituting Conditional Limits	Percentage Change
A	Average Volume on Last Trade Day (LTD) Closing Range	8,242	6,919	-1,323	-16.1%
B	Average Volume on Option Expiration Day Closing Range	6,468	7,597	1,128	17.4%
C	Average Total Daily Volume	56,026	54,625	-1,401	-2.5%



Red Line: Conditional Limit Start Date

Prices

In analyzing the price range throughout the day and within the settlement period, it appears that there has been less price fluctuation in Natural Gas during the settlement period since the conditional limit was instituted. The "Average Range in Settlement Period" represents the difference between the high and the low of the settlement period as shown in Figure C below in line D. On average there was a $0.038 narrower range since the Conditional Limit was initiated. Line F titled "Average % Price Range Settlement Period" shows the price change in relation to the Settlement Range High Price. According to data analyzed, it appears there is less price fluctuation in relation to the settlement range since the Conditional Limit was initiated.

For the entire daily price fluctuation, the average price range during the time before conditional limits was lower. Line G in Figure C below shows the price range as a percentage of the daily high price. It is apparent that the price of Natural Gas, on average, had a wider range in respect to the daily high price before conditional limits.

Figure C: Price Analysis for Natural Gas (July 2009 – June 2011)

	Price Analysis	Before Conditional Limits	After Conditional Limits	Since Instituting Conditional Limits	% Change
D	Average Range in Settlement Period	$0.108	$0.070	$-0.038	-35.1%
E	Average Range in Price (Daily)	0.183	0.154	-0.029	-15.9%
F	Average as % Price Range Settlement Period	2.37%	1.60%	-0.77%	
G	Average as % Price Range	5.56%	3.54%	-2.03%	
H	Average Range in Settlement Period Last Trade Date	0.157	0.095	-0.062	-39.6%
I	Average as % Price Range on Last Trade Date	3.75%	2.20%	-1.55%	
J	Average Range Settlement Period Option Expiration Day	0.078	0.064	-0.014	-18.1%
K	Average as % Price Range on Option Expiration Day	1.51%	1.42%	-0.09%	

Table Explanation:

- Rows D, E, H, and J all represent the average difference in the price range in the same terms Natural Gas futures are priced, $.001 per MMBtu, where 0.108 would be 10 and 8/10 cents.
- Rows F, G, I, and K are the closing ranges divided by the closing range high, which represents the percentage the range for the settlement period in relation to closing range's high price. The formula used to determine these percentages is:

$$\frac{\text{(Closing Range High Price - Closing Range Low Price)}}{\text{Closing Range High}}$$

III. Volatility Analysis from CME Group Research and Product Development (RPD)

Based on data provided by Market Regulation, the RPD, further examined whether there has been a measurable change in the volatility in NYMEX's physically delivered natural gas futures contract since the introduction of conditional limits.

Key Takeaway:
The results of running multiple tests are consistent that when taking into account market volatility, the closing range in NG increased by a significant amount after the introduction of conditional limits. We used three different measures of volatility and the average increase in volatility was 25% after the introduction of conditional limits (range was from 21.8% to 27.6%).

Methodology:

- We evaluated the closing range for each termination day based on data from Market Regulation
- We evaluated the 20-day standard deviation of settlement prices ("20-day STD") for each day, including termination days, for the expiring natural gas contract. This is a standard measure of realized market volatility. Our measure of standard deviation was in terms of the natural logarithm of price changes, a measure of percentage change in price. Alternatively, we also completed the same analysis for outright price changes and there was no major change in any results.
- We compared the ratio of the closing range to the 20-day STD for the 17 expirations prior to the implementation of conditional limits to the 17 expirations subsequent to the implementation. This ratio expresses the closing range relative to current market volatility; thus, it takes into account current market conditions. Thereafter, we refer to this ratio as the Relative Closing Range (RCR).

Summary of Results:

1. The most direct comparison is the average of the termination day RCRs before and after the implementation of conditional limits. The before-RCR was .0454 and after-RCR was .0580, an increase of 27.6%. Note: there was one termination after the implementation that had a much higher RCR than the others (September 2010 contract termination during August 2010). (However, we have kept this data point in our analysis because we believe such an “outlier” is illustrative of our concern with this policy—it makes the market more susceptible to volatility. Also, dropping the “high” from the before data preserves the magnitude of the before-after relationship.)
2. In the second test, we modified the analysis to eliminate any potential “feedback” effect that could partially distort the results. To eliminate this bias, we used the 20-STDs for the day immediately prior to the advent of the conditional limit period; in other words the 4th Business Day before the end of the month. This analysis using those 20-day STDs resulted in a before-RCR of .0444 and an after-RCR of .0541, an increase of 21.8%.
3. We also modified the RCR applying implied volatility (expressed in terms of dollars) instead of the STD. This, of course, substitutes a measure of market expectations for realized volatility. The results for this were that the before-RCR was .0378 and after-RCR was .0472, an increase of 25.1%. Once again, the results are consistent and under all three tests, the Relative Closing Range was more volatile after the conditional limits were introduced.