

# BEFORE THE JOINT CFTC-SEC ADVISORY COMMITTEE ON EMERGING REGULATORY ISSUES

*Comments of Thomas Peterffy  
Chairman and C.E.O., Interactive Brokers Group  
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## **I. Factors Contributing to the Events of May 6, 2010**

The preliminary findings of the CFTC and SEC staffs outlined in their May 18, 2010 Report to the Committee, combined with developments we have seen over the past 12-18 months involving the interaction of Exchange Traded Funds (“ETFs”), Portfolio Hedgers, High Frequency Traders and Market Makers, suggest that the events of May 6 arose from the following four conditions, which combined to dangerous effect that day:

### 1. Registered Market Makers Have Been Weakened by Competition from High Frequency Traders, Reducing Available Market Liquidity

In a trend that accelerated over the past 12-18 months, Market Makers have been considerably weakened by competition from High Frequency Traders (“HFTs”). HFTs operate without the significant regulatory burdens and costs borne by registered broker-dealer Market Makers. Using unfiltered sponsored access, most of these HFTs transmit rapid-fire orders directly to trading centers without any credit controls or regulatory controls to slow their trading.

HFTs have elbowed out Market Makers by copying or even bettering Market Makers’ quotes but for very small sizes. In response, Market Makers have had to reduce their quoting sizes and tighten their quotes, reducing overall market liquidity.

Given the relative lack of volatility in 2009 and through April of this year, HFTs have been able to trade profitably on the small, narrow quotes that they post. Since they have low regulatory overhead, no market making obligations, and few restrictions on their trading, they are free to take market share from registered broker-dealer Market Makers in placid markets, and then withdraw or disappear entirely in times of increased volatility or serious market breaks. Integrating and stabilizing the valuable liquidity provided by these HFTs into the National Market System, *e.g.*, by encouraging them to become registered Market Makers, should be an important policy objective, as I will discuss below.

### 2. Increasing Popularity of ETFs for Institutions and Other Portfolio Hedgers

ETFs consist of a basket of stocks, and one or a combination of a few ETFs can serve as an excellent proxy for any portfolio. Since ETFs are generally quite liquid, they are a preferred means of hedging and unhedging existing portfolios. Institutions increasingly use stop orders on ETFs as a hedging tool and these stop orders seem to have played an important role in the events of May 6.

### 3. Pricing Difficulty in ETFs During Sharp Market Moves

Most Market Makers make markets in ETFs by calculating the value of the underlying basket of stocks (*i.e.*, summing the fair values of the underlying components) and then making a quote by bidding slightly under and offering slightly over this price. A critical problem arises during sharp market moves, however, because if one or more stocks in the basket appear to be mispriced (*e.g.*, because of market data that shows a drastic change in one or more of the components that may or may not be “real”), the value of the entire basket becomes undeterminable. In this event, market makers will either widen their ETF quotes or temporarily withdraw them.

In this way, a contagion arising from sharp moves and/or problems with prices in a few individual stocks can quickly spread to all of the ETFs containing those stocks, resulting in a drop in liquidity in the ETFs because of pricing uncertainty.

### 4. ETF Arbitrage Strategies

High Frequency Traders have developed a simple arbitrage in ETFs, in which they sum up the posted bids for all the stocks in the basket and then they try to buy the ETF for just under that sum of the stock bids. If the ETF is bought, all the underlying stocks are immediately sold short on their bids. This arbitrage appears to have been in evidence on May 6 and, along with the factors described above, seems to have helped create a feedback loop of heavy ETF trading combined with heavy sales of certain underlying components at seemingly irrational prices.

## II. Interaction of these Four Factors on May 6, 2010

First, as the market fell on bad news from Europe, ETF sell orders from institutions and other Portfolio Hedgers came to market and plowed through the relatively small sized bids.

High Frequency Traders' ETF arbitrage programs then stepped in to buy ETFs and sell short the stocks in the underlying baskets. These short sales sliced through the relatively sparse bid side of some stock books.

ETF Market Maker programs then diagnosed unreliable stock prices and widened out or stopped quoting.

From the point of view of the HFT arbitrage programs, ETFs could be bought 10 to 20% down for the day while the sum of the bids for the underlying stocks was down less than 10% – even though some specific individual stocks in the basket may have been down by nearly 100%. HFTs' programs did not care if they sold short some of the stocks in the basket on extremely low stub quotes, as long as they could lock in a profit on the trade, *overall*.

This feedback loop of ETF stop orders hitting ever smaller and wider ETF quotes and HFTs selling short baskets of the individual stocks at lower and lower prices continued even after saner heads prevailed in the broad based stock index futures.

### **III. Recommendations to Improve Market Stability and Liquidity**

1. The New Circuit Breakers Should Be Enhanced To Provide that Any ETF Should Be Halted in Which Three Percent of Stocks By Weight Are Halted.

The new exchange circuit breakers implemented in late May are generally the right approach and should prevent a recurrence of an event like May 6, but it is very important that the circuit breakers be expanded to address ETFs in which component stocks have been halted.

If ETFs can still trade in which any meaningful percentage of the underlying is halted, traders may still see an opportunity to profit by buying the ETF and shorting the underlying stocks, spreading the contagion from a few stocks in an ETF to the other stocks in the basket. In order to prevent this arbitrage feedback loop, the new circuit breakers should be enhanced to provide that any ETF will be halted in which three percent of stocks by weight are halted.

2. Obvious Error Rules Allowing for After-the-Fact Cancellation of Executed Trades Harm Liquidity. Exchanges Should Program Their Systems Not To Execute Trades that Would Violate Obvious Error Parameters. Trades that Are Executed Should Stand.

As noted, the current logic and operation of obvious error rules discourages potential liquidity providers from stepping in and buying shares in a sharply falling market because if the stock rallies, the liquidity provider may find that their buy trades are cancelled and their sell trades stand (leaving them with an open short position in a rallying market, which they will not discover until after the fact). On the other hand, if they are a buyer in a falling market and the stock continues to fall and remains lower, the buy trade will likely stand.

Even without this adverse selection problem, it is obvious that cancellation of trades after the fact undermines certainty and confidence in the marketplace and creates severe logistical and administrative problems and expenses.

The solution is that exchanges and market centers should not break trades. Rather, they should have clear rules – in advance – as to what would constitute an unacceptable trade price, and should program their systems not to match such trades. Any trade that *is* executed should stand.

3. The National Market System Needs More, Committed Market Makers. High Frequency Traders Should Be Encouraged To Become Bona Fide, Registered Market Makers.

High Frequency Traders are currently only fair weather liquidity providers, making markets when times are calm but leaving the market temporarily or permanently during turbulent periods. To enhance liquidity and stability and to integrate these HFTs into the National Market System, they should be encouraged and rewarded to become bona fide, registered Market Makers.

This could be achieved if all orders, modifications and cancellations sent to any trading center were buffered for 100 milliseconds before being sent to the matching engine, except when sent by a Market Maker registered in that product at that trading center.

Registered Market Makers in turn would have to post two sided quotes of defined width, depending on the product and market conditions, 97% of the time. Further, Market Makers' buys would have to take place on minus or zero minus ticks and their sales on plus or zero plus ticks 97% of the time. This concept of Market Making should be extended to the futures markets under similar rules.

4. The SEC Should Approve Its Rule Banning Unfiltered Sponsored Access and Should Further Provide that Only Clearing Members May Send Orders Directly To A Trading Center. The Same Should Be True for Futures.

The SEC has recognized the serious systemic risk posed by HFTs that use sponsored access to send orders directly to market centers without any pre-transmission credit or risk checking by the sponsoring broker-dealer. Credit and risk control after a trade has been executed is too late, and eventually a major failure will occur if the Commission's proposed prohibition on naked sponsored access is not approved.

The same problem applies with respect to orders sent by non-clearing broker-dealers. There is a class of undercapitalized non-clearing broker-dealers who may engage in risky trading practices on the theory that, in the event of a major loss, they will simply disappear and their clearing broker will be stuck holding the bag. Again, post-execution risk management is insufficient to address this risk.

Thus, all orders originating from HFTs *and* from non-clearing brokers should be pre-filtered and sent to the marketplace only through a clearing member. In this way we can be assured that a financially credible entity stands behind each trade. Further, all orders should be tagged by the transmitting clearing broker as being from an originating customer, broker or Market Maker, along with a unique account number and order number, so that each trade may be traced directly to its origin for purposes of market surveillance and prevention of fraud and manipulation.