April 25, 2011

What's Changed Since the Flash Crash?

A Themis Trading LLC Analysis

By Sal Arnuk, Joseph Saluzzi and R. T. Leuchtkafer

"Indeed, even in the absence of extraordinary market events, limit order books can quickly empty and prices can crash simply due to the speed and numbers of orders flowing into the market and due to the ability to instantly cancel orders."

Summary Report of the Joint CFTC-SEC Advisory Committee on Emerging Regulatory Issues, February 18, 2011

Do you feel lucky? Well… do ya?

It has been nearly one year since the infamous Flash Crash of May 6, 2010 exposed the vulnerabilities in our US market structure.

Steady and controlled selling gave way to a dangerous and precipitous plunge, as algorithmic proprietary traders tripped over each other to see who could hit the next bid the fastest. After a pause in one market center, the algo-bots raced to see who could take offers and cover shorts the fastest, and the 1,000 plus DJIA drop reversed just as fast. Phillip Morris fell from nearly $49 to $17 before recovering to $47. Boston Beer and Accenture fell to a penny. The exchanges agreed to break thousands of trades that were 60% away from their pre-crash prices.

Approximately 70% of these broken trades were in ETFs. A disproportionately large number of those broken trades had been handled by internalizers (the interdealers who pay brokerage firms for their order flow). In fact, many now describe the Flash Crash on May 6th not as a *market crash*, but as an *interdealer panic*.

The Joint CFTC-SEC Advisory Committee's examination of the events of that infamous day was to recommend ways to make sure interdealers can't, won't, or don't abandon their responsibilities. We do not believe the Committee has achieved its goal…yet. While a few regulations have been enacted, and we see increased coordination between market centers to some extent, we believe a Flash Crash can happen again. In fact, replaying the data from that day in an environment of our current safeguards and circuit breakers shows that the Flash Crash would have still happened, minus a few stocks trading to nonsensical values. Nothing has been done to reign in the velocity and ferociousness of the interdealer algo-bots that attacked the market on May 6, 2010.

What happened May 6th?

1. Half of the "liquidity providers" turned off.

2. The other half turned from "liquidity provider" to "liquidity demander" in the most cut-throat way.

Themis Trading LLC, 10 Town Square, Suite 100, Chatham, NJ 07928
Phone: (973) 665-9600 / Web: www.themistrading.com

3. Internalizers cherry picked which orders to "price improve" internally, and which ones to flood the public markets with. As the tape was plunging, buy orders were kept in house, with the internalizers shorting them to the other side, before those orders ever saw the public markets. Sell orders were routed out to the public markets as limit orders, pegged to a slow data feed, and kicked back to the internalizers. There, they were then re-routed out with new limits and kicked back again, in a vicious systematic cycle, contributing even further to data-flooding delay issues.

4. Market data issues, specifically latency, or speed differentials, between the slower public SIP and the faster private data feeds, exacerbated the high velocity, algo-bot induced, price swings.

What have we learned?

1. The nation discovered that our markets have changed drastically. While market players and insiders find this fact to be obvious, it was a wake-up call to the investing public – the hundreds of millions of regular folks, who save, invest and own capital, as opposed to renting it.

2. Investor confidence was substantially eroded. Trading volume plummeted and money left equity mutual funds en masse week after week.

3. The markets cater to high speed gambling and traders, not capital formation and economic growth.

4. Volume does not equal liquidity.

5. Our own government agencies and regulatory bodies have had a large hand in helping to create this fragmented "Franken-Market" structure.

6. Our own government agencies and regulatory bodies have been slow to change and correct unintended consequences because of:
    - Budget issues and a lack of industry experience at best.
    - Cozy relationships with the firms and insiders that have pushed for the current structure at worst.

What have our regulators been doing?

In February 2011, the U.S. Joint CFTC-SEC Advisory Committee on Emerging Regulatory Issues filed a report with a remarkable conclusion: "Even in the absence of extraordinary market events, limit order books can quickly empty and prices can crash" because of high frequency and algorithmic trading.

The eight-member Committee advises the CFTC and SEC on regulatory matters. Announced on May 11, 2010, its first order of business was to investigate the Flash Crash. For nine months, the Committee reviewed staff reports, held four public meetings memorable for their earnestness and detail, and reviewed testimony and written comments from a wide range of market participants.

The Committee's final report (http://www.sec.gov/spotlight/sec-cftcjointcommittee/021811-report.pdf) contains 14 separate rule making recommendations designed to reform U.S. markets and lower the possibility of another Flash Crash. Those dealing with single stock circuit breakers (with limit-up/ limit-down features), some sponsored access rule-tightening, and the elimination of stub quotes, have made the most headway.

While they may mitigate the likelihood of *an individual stock* flash crash, they do little to prevent another *market wide* Flash Crash. They treat the symptoms of a Flash Crash, rather than the underlying causes. Despite the Committee's testimony from numerous voices with academic and industry experience cautioning on the dangers of unfettered speed in our markets, there is virtually nothing in the 14 recommendations to address that issue.

Themis Trading LLC, 10 Town Square, Suite 100, Chatham, NJ 07928
Phone: (973) 665-9600 / Web: www.themistrading.com

Three recommendations, however, are particularly promising.

Recommendation	**Our Analysis**
The SEC and CFTC explore ways to fairly allocate the costs imposed by high levels of order cancellations, including perhaps requiring a uniform fee across all Exchange markets that is assessed based on the average of order cancellations to actual transactions effected by a market participant.	Any type of cancellation fee would do much to address the concept of fleeting liquidity, and reconcile much of the divide between what is volume versus what is liquidity.
The SEC conduct further analysis regarding the impact of a broker-dealer maintaining privileged execution access as a result of internalizing its customer's orders. The SEC's review should, at a minimum, consider whether to (i) adopt its rule proposal requiring that internalized orders only be executed at a price materially superior (e.g., 50 mils for most securities) to the quoted best bid or offer, and/or (ii) require firms internalizing customer order flow to be subject to market maker obligations that requires them to execute some material portion of their order flow during volatile market periods.	The behavior of the internalizing brokerage firms on that day must be addressed. Their payment-for-order-flow models stab at the very heart of best execution. How can these brokers claim best execution if they are selling those orders to someone else? They wouldn't pay for those orders unless they were making money somehow off of them. This truth is so self-evident. We're amazed that lobbyists hired by the internalizers have been able to talk around it for so long.
The SEC study the costs and benefits of alternative routing requirements. In particular, we recommend that the SEC consider adopting a "trade at" routing regime.	A trade-at rule (unless allowing for a minimum $0.005 price improvement) protects the integrity and need of a public marketplace, while preserving the value of large-block dark pools to institutional investors and money managers, which represent long-term investor interests.

Sadly, these three are the least advocated by the powers that be on Wall Street. The cynic inside us doubts these recommendations will ever make it into rulemaking, despite their benefits to the markets and all investors.

What Can We Conclude?

Since May 6, 2010, the market in general has risen more than 20%. While a bull market always lifts confidence, *the Committee's arresting statement that prices can crash without reason at any time should make every investor nervous*. Last year, then U.S. Senator Ted Kaufman coined the term "mini flash crash" (MFC) to describe an unexplained price crash in a single stock. While MFCs haven't reached the scale of May 6th, they have not gone away. We see them every day in the market.

Marcos Lopez de Prado, head of high frequency futures trading at hedge fund Tudor Investment and a research partner of Maureen O'Hara, a member of the CFTC-SEC Advisory Committee, said in a recent interview (http://www.advancedtrading.com/infrastructure/229300493), "Flash crashes are happening all the time." He explained that unlike market makers in the past, "High frequency market makers in particular run with very limited capital." If markets turn against them, "they have to liquidate and protect their firm. In these circumstances we're seeing many more mini flash crashes." When these circumstances affect several market makers at once, markets suffer much bigger crashes. Lopez de Prado explained that in the Flash Crash itself, high frequency market makers "accumulated losses and at some point had to shut their portfolios down and vanish from the market."

Themis Trading LLC, 10 Town Square, Suite 100, Chatham, NJ 07928
Phone: (973) 665-9600 / Web: www.themistrading.com

Ironically, the CFTC-SEC report last year concluded that one reason market makers accumulated losses was that other market makers were frantically selling at any price. This set off a panic the SEC called "hot potato" trading, as market makers sold to each other at lower and lower prices. It was not always so. Before the stock exchanges deregulated, market makers had rules that both kept them in the market and prevented them from dumping their portfolios or bidding up prices.

Today, high frequency market makers are paid by the stock exchanges to supply their volume and get valuable privileges from the SEC, but have almost no obligation to perform. When their risk controls alert, they pull their quotes and dump their portfolios. This business model turned a bad day into a disastrous one on May 6th, when high frequency market makers stampeded in herds to flee a sell-off, aggressively dumping their portfolios.

Again, we come to those 18 words: "Even in the absence of extraordinary market events, limit order books can quickly empty and prices can crash." This paradigm was unthinkable except to a tiny circle of critics before the Flash Crash and totally unthinkable just a decade ago. Those words tell how profoundly stock markets have changed, and how exchanges now manage their brands, technology platforms and government licenses, but can't control their own order books.

Can the Flash Crash happen again? Yes it can. It happens almost every day in individual stocks and ETFs. Our markets will continue to remain vulnerable as long as we as an industry remain in denial of the fact that volume does not equal liquidity, and as long as we tolerate the for-profit exchange model, which places its revenues from encouraging speed above all other concerns and safety.

Joseph Saluzzi (jsaluzzi@ThemisTrading.com) and Sal L. Arnuk (sarnuk@ThemisTrading.com) are co-heads of the equity trading desk at Themis Trading LLC (www.themistrading.com), an independent, no conflict agency brokerage firm specializing in trading listed and OTC equities for institutions. Prior to Themis, Mr. Arnuk worked for more than 10 years at Instinet Corporation, where he headed the team responsible for equity sales and trading for major institutional money managers. Mr. Saluzzi worked for more than nine years at Instinet, where he headed the team responsible for equity sales and trading for major hedge fund accounts.

R. T. Leuchtkafer is a private investor.

Themis Trading LLC, 10 Town Square, Suite 100, Chatham, NJ 07928
Phone: (973) 665-9600 / Web: www.themistrading.com