Will the Real Market Failure Please Stand Up?

Chairman Schapiro on September 7

• The Flash Crash is "clearly a market failure"

An Internet search produces 767,000 references to market failure

• A condition that arises when unrestrained operation of markets yields socially undesirable results

The story that was (and to some extent still is) being crafted

• Market structure itself is the real market failure

Why does the Flash Crash live on?

- It has changed the entire tenor of the regulatory debate concerning market structure and behavior as conditioned by structure
- The Flash Crash is used as motivation multiple times in an address by Chairman Schapiro as late as March 23 of this year



The Flash Crash of May 28

A bad morning

The market drops sharply in the afternoon, then rebounds

Many stocks decline by over nine percent in less than 12 minutes

Full investigation, but the cause remains undetermined

What did market structure look like?

What was the role of market makers, and how did they react?

How did market and stop-loss orders play into the crash?

Speed, speed and more of the same...

Investor behavior and changes in the impact of normal market mechanisms, with an eye towards fair and orderly markets

Price discovery







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What Order Flow Went Along with the Message Traffic?



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A Lagging Indicator of Liquidity Provision



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ETF Depth at the Top of the Book



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ETF Depth Across Ten Price Levels



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S&P 500 Growth Index Fund



S&P 500 Growth Index Fund







ETFs without Trade Breaks



Was the Liquidity Issue Limited to ETFs?

The bulk of the final SEC report is summarized by a few quotes

- "the largest and most erratic price moves were caused by withdrawals of liquidity and the subsequent execution of trades at stub quotes"
- "liquidity had virtually evaporated" (repeated in different contexts)
- "drops in price become increasingly more severe with ever-larger drops in liquidity"
- All in all, "what happened is best described in terms of two liquidity crises—one at the broad index level in the E-Mini, the other with respect to individual stocks"

From market structure to behavior, and onwards to algorithms



The New Algorithmic Trading Debate

2:32 ET on May 6

An unpriced order was submitted to a volume participation algorithm 35,000 contracts sold as the contract went from 1130 to 1056 Five second pause by the CME Futures go back to previous level 40,000 more contracts sold Total elapsed time: 20 minutes



Volume Participation, Volatility, and Size



Participation Algorithms for Small Orders



Participation Algorithms for Large Orders



If We Have Time for the Regulators...

- **Regulation of trading strategies**
- **Stub Quotes**
- **Regulatory Constraints on Brokers**
- **Enhanced Data Transparency**
- **Circuit Breakers**
- **Automated Review Policies**





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