

U.S. SENATOR EDWARD E. KAUFMAN
HEARING TESTIMONY
“DARK POOLS, FLASH ORDERS, HIGH FREQUENCY TRADING AND
OTHER MARKET STRUCTURE ISSUES”
SUBCOMMITTEE ON SECURITIES, INSURANCE AND INVESTMENT
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS
OCTOBER 28, 2009

It's a privilege for me to testify at today's hearing, and I commend Chairman Reed and Ranking Member Bunning for convening it.

Mr. Chairman, our stock markets have evolved rapidly in the past few years in ways that raise important questions for this hearing to explore.

Technological developments have far outpaced regulatory oversight; and traders who buy and sell stocks in milliseconds – capitalizing everywhere on minute price differentials in a highly fragmented marketplace – now predominate over value investors. Liquidity as an end seems to have trumped the need for transparency and fairness. We risk creating a two-tiered market structure that is opaque, highly fragmented and unfair to long-term investors.

I am very concerned about the integrity of the U.S. capital markets, which are an essential component to the success of our nation.

It was the repeal of the uptick rule by the SEC in 2007 which first caught my attention. When I was at Wharton getting my MBA in the mid-1960s, the uptick rule was considered a cornerstone of effective financial regulation. As many on this subcommittee have noted, the uptick rule's repeal made it easier for bear raiders – no longer constrained to wait for an uptick in price between each short sale – to help bring down Lehman Brothers and Bear Stearns in their final days.

In April, Senators Isakson, Tester, Specter, Chambliss and I introduced a bill prodding the SEC to reinstate the rule. As the months have gone by, I have asked myself – why is it so difficult for the SEC to mandate some version of the uptick rule and impose “hard locate” requirements to stop naked short selling? Then it became clear: None of the high-frequency traders – who dominate the market – want to reprogram their computer algorithms to wait for an uptick in price or to obtain a “hard locate” of available underlying shares.

I began to hear from many on Wall Street and other experts concerned about a host of questionable practices – all connected to the decimalization and digitalization of the market and the resulting surge in electronic trading activity. It became clear that the SEC staff was considering issues piecemeal – like the rise of flash orders – without taking a holistic view of the market's overall structure, applying rules from a floor-based trading era to our current electronic trading venues.

I wrote SEC Chairman Schapiro on August 21 calling for a comprehensive “ground up” review of the equity markets (my letter and the Chairman’s September 10th response are attached):

Actions by the SEC over recent decades have, perhaps unintentionally, encouraged the development of markets which seem to favor the most technologically sophisticated traders. The current market structure appears to be the natural consequence of regulations designed to increase efficiency and thereby provide the greatest benefits to the highest volume traders. I believe the SEC's rules have effectively placed "increased liquidity" as a value above fair execution of trades for all investors.

Markets have become so fragmented - and the rise of high-frequency trading that can execute trades in milliseconds has been so rapid - that the SEC should review and quantify the costs and benefits of these market structure developments to all investors.

The facts speak for themselves. We’ve gone from an era dominated by a duopoly of the New York Stock Exchange and Nasdaq to a highly fragmented market of more than 60 trading centers. Dark pools, which allow confidential trading away from the public eye, have flourished, growing from 1.5 percent to 12 percent of market trades in under five years.

Competition for liquidity is intense – and increasingly problematic. Flash orders, liquidity rebates, direct access granted to hedge funds by the exchanges, dark pools, indications of interest, and payment for order flow are each a consequence of these 60 centers all competing for liquidity.

Moreover, in just a few short years, high frequency trading – which feeds everywhere on miniscule price differences between and among the many fragmented trading venues – has skyrocketed from 30 percent to 70 percent of the daily volume. Indeed, the chief executive of one of the country's biggest block traders in dark pools was quoted last week as saying that the amount of money devoted to high frequency trading could quintuple "between this year and next."

So I’m pleased that the Commission has begun to address flash orders and dark pools.

Let me quickly lay out three reasons why this hearing is so important:

First, we must avoid systemic risk to the markets. Our recent history teaches us that when markets develop too rapidly, when they are not transparent, effectively regulated or fair – a breakdown can trigger a disaster.

Second, rapid advances in technology, which can produce impressive results, combined with market fragmentation are moving us from an investor’s market to a trader’s market. This can have significant consequences. Last week, I met with the author of a soon-to-be-

released Grant Thornton study that found that market structure changes since the 1990s have severely undermined the ability of small companies to raise capital and issue IPOs.

Third, we must ensure that retail investors are not relegated to second-tier status.

When the average investor believes he or she is paying a higher price for 100 shares of IBM, even if only marginally, the integrity of our markets is significantly tarnished. The markets should work best for those who want to buy and hold in hopes of a golden retirement, not just for high frequency traders who want to buy and sell in fractions of a second.

As Chairman Schapiro acknowledged just yesterday, “I believe we need a deeper understanding of the strategies and activities of high frequency traders and the potential impact on our markets and investors of so many transactions occurring so quickly.”

Many on Wall Street assure us we have nothing to worry about: that high-speed technology has only led to positive changes: greater liquidity, narrowed spreads and lower costs. Rules ensuring “best execution,” they say, will always protect the investor. Don’t take those claims on face value.

- ***Many of these “liquidity providers” are not regulated market makers.*** Furthermore, liquidity mainly follows high-volume stocks because that’s where the profit is; in low volume stocks, spreads remain wide.
- ***Our regulators and broker-dealers are using antiquated benchmarks and measurements to ensure fair trades.*** By the time the consolidated best bid and offer data has been aggregated from the many different market centers and then disseminated, the time lag is large enough for an entire industry of high frequency traders to book millions of dollars in profits.
- ***Payment for order flow is an inherent conflict of interest.*** Because it encourages broker dealers to send retail order flow to the highest bidder and not to the trading center that is necessarily best for the buyer or seller, payment for retail order flow is a highly dubious practice.
- ***Growing trading volumes in dark pools is undermining public price discovery.*** While certain dark pools serve a useful function – permitting large blocks of stock to change hands without creating temporary price drops or gains – their proliferation is undermining public prices.
- ***High-frequency gaming strategies may be forcing retail investors to pay higher prices, although the lack of transparency and effective regulatory surveillance prevents us from knowing the extent to which this might be happening.*** But it is telling when sophisticated clients are reportedly demanding that their major broker-dealers “not hand over their orders on a silver platter” – and when seminars for institutional fund managers are conducted openly on how to avoid being “gamed” in dark pools.

Technology should not dictate our regulatory destiny; rather our regulatory policy should provide the framework and the guidelines under which technology operates. Our foremost policy goal should be to restore the markets to their highest and best purposes: serving the interests of long-term investors, establishing prices that allocate resources to their most productive uses, and enabling companies – large and small – to raise capital to innovate, create jobs and grow.

The SEC's ground-up review of these issues should leave nothing out, reviving old ideas and examining new ones: should markets be centralized or decentralized; should we separate the markets based on investor types; what should be the role of market makers; what role might there be for real time risk management?

At a minimum, a few straightforward propositions should guide us to a regulatory framework that permits vigorous competition while substantially reducing the possibility of a two-tiered trading network, one where long-term investors are vulnerable to powerful trading companies that exist not to value or invest in the underlying companies, but to feed everywhere on small but statistically significant price differentials. As values, transparency and fairness should trump liquidity.

First, we should reconsider the criteria for becoming an exchange or market center. The market's unhealthy fragmentation, and the high-speed trading strategies which thrive on its fractured state, are growing far too rapidly to ensure that there are not unintended negative consequences for the investing public.

Second, we should consider rule changes that ensure the best prices are publicly available, not hidden from view in private trades. The strength of a free market is based on this public display. We should reduce "internalization" by broker-dealers, by insisting on meaningful price improvement in comparison to the public quotes or by granting the public quotes the right to trade first. And we should reduce trading in dark pools by reducing the permissible threshold for dark pool trading and by defining indications of interest, and other quote-like trading signals, as quotes.

Third, we should root out conflicts of interest by ending payments from market centers that encourage orders to flow their way. The search for best execution by broker-dealers should not be subject to temptation from the highest bidders. Liquidity rebates and direct access to the exchanges by hedge funds, which are still unregulated entities, also deserve careful review.

Fourth, regulators should measure execution fairness in milliseconds for stock trades of all kinds, as only then can the credibility of the markets be assured. The audit trails and records of order execution in fragmented venues must be synchronized to the millisecond and made readily available in statistically understandable formats to regulators and the public. This obligation must be placed on broker-dealers as well as market centers. Currently, while high frequency traders bank profits in milliseconds, the first column for time on the Rule 605 form, used by regulators to measure execution quality, reads "0-9 seconds."

Fifth, regulators must develop more sophisticated statistical tests to gain a granular view of gaming strategies, such as following high frequency trading volume patterns. Only then can regulators separate high frequency strategies that add value to the marketplace from those that inexcusably take value away.

As a nation, our credit and equity markets should be a crown jewel. Only a year ago, we suffered a credit market debacle that led to devastating consequences for millions of Americans. While we must redress those problems, we must also urgently examine opaque and complex financial practices in other markets, including equities, before new problems arise. It is essential to ensure the integrity of US capital markets.

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JUDICIARY COMMITTEE
MEMBER

FOREIGN RELATIONS COMMITTEE
MEMBER

United States Senate

August 21, 2009

The Honorable Mary L. Schapiro
Chairman
U.S. Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549-1090

Re: Comprehensive Review of Market Structure Issues

Dear Chairman Schapiro:

I am writing to you concerning the present SEC review of questionable market structure issues that have developed in recent years, such as so-called "flash orders" (selectively displayed orders) and dark liquidity pools. I request that the SEC undertake a comprehensive, independent "zero-based regulatory review" of a broad range of market structure issues, analyzing the current market structure from the ground up before piecemeal changes built on the current structure increase the potential for execution unfairness. I am concerned that questionable practices threaten to further erode investor confidence in our financial markets and that our understanding and regulatory capacity have not kept pace with those changes.

Actions by the SEC over recent decades have, perhaps unintentionally, encouraged the development of markets which seem to favor the most technologically sophisticated traders. The current market structure appears to be the consequence of regulatory structures designed to increase efficiency and thereby provide the greatest benefits to the highest volume traders. The implications of the current system for buy-and-hold investors have not been the subject of a thorough analysis. I believe the SEC's rules have effectively placed "increased liquidity" as a value above fair execution of trades for all investors.

Markets have become so fragmented – and the rise of high-frequency trading that can execute trades in milliseconds has been so rapid – that the SEC should review and quantify the costs and benefits of these market structure developments to all investors. Regulation NMS (or Reg NMS – or Regulation National Market System) appears to have had many unintended consequences, driving order flow into dark pools when it was intended to strengthen public order display. Regulation ATS (or Reg ATS – or Regulation Alternative Trading Systems) has permitted execution venues to flourish, and competition generally has been beneficial. More than 50 execution platforms now exist. This has led to increased competition for market share, however, that now includes questionable practices such as liquidity rebates, flash order offerings, co-location of

servers and other inducement arrangements with broker-dealers and other market participants.

Moreover, market structure developments have taken place so quickly, that the SEC rule-making process is applying principles and precedents based on floor-based trading to electronic environments. For example, in May 2009, the SEC staff permitted two exchanges to introduce flash-order offerings, even though both admitted that the practice was of dubious value and that they simply were being driven to adopt it by the loss of market share to competitors. Instead of simply applying precedent from an obsolete business practice to a particular electronic order type or technological development, we need a comprehensive evaluation of each proposal's direct and indirect costs to the average investor.

In short, the SEC and the public it serves needs to step back and gain a clearer picture of what has happened. We need a thorough review of market structure issues so that our laws and regulations can keep pace with market developments. In particular, the SEC must look quickly into the following:

- (1) Are **conflicts of interest** leading to failures to protect retail investor orders from execution strategies that take advantage of such investors because of the latent disparities within the market? Such disparities lead to opportunities to take advantage of market structure. Permitting a high-frequency trader to see information in "tomorrow's newspaper" does not benefit retail investors who are still reading today's newspaper (and who have been told repeatedly that a buy-and-hold strategy is best);
- (2) Are the over 50 execution venues being **monitored and audited for best execution versus national best bid and offer**? The SEC needs to improve the reporting of execution quality for all trading venues in Rule 605. The SEC should also make brokerage firms produce better and usable execution quality statistics in Rule 606.
- (3) Are the national best bid and offer (NBBO) **truly reflecting the quotes consolidated from the various venues at current execution speeds**? Otherwise, NBBO is questionable as a benchmark measure of execution fairness.

Market fragmentation and high-speed electronic trading have produced benefits, including increased liquidity, narrowed spreads, and lowered commissions for most investors. Yet the increase in liquidity and decrease in spreads has been centered around the most active stocks – liquidity is still light and spreads are still wide on many lower volume stocks (reminding us that providers of liquidity follow the profits in that activity; they do not provide liquidity across all stocks as a service to the market or as a public good).

The Honorable Mary Schapiro
August 21, 2009
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Liquidity, speed and the role of arbitrage functions cannot be the end of the discussion. Indeed, this conversation is only now beginning to take place, as recent questionable market practices, which few previously understood, are only now coming to light.

For the markets to have credibility and investors to have confidence, the SEC must act urgently to restore a level playing field for investors. "Fair markets" is admittedly an elusive and evolving concept but one that needs to be clearly defined by the regulators. In the attached paper, I have elaborated on the topics and questions raised by current market structure developments. I encourage you to direct SEC staff to undertake a comprehensive study of these and other issues. This study should include independent outside experts from across the United States, including representatives of the retail investor community and small business.

Sincerely,

A handwritten signature in black ink, appearing to read "Ed Kaufman", with a long horizontal flourish extending to the right.

Edward E. Kaufman

cc: The Honorable Luis A. Aguilar, Securities and Exchange Commission
The Honorable Kathleen L. Casey, Securities and Exchange Commission
The Honorable Troy A. Paredes, Securities and Exchange Commission
The Honorable Elisse B. Walter, Securities and Exchange Commission

MARKET STRUCTURE ISSUES

Selectively Displayed Orders (So-Called “Flash Orders”)

- DirectEdge is gaining market share through a flash order offering that allows it to invert its fee schedule.
- Nasdaq’s and BATS’s decisions first to offer and then to eliminate flash order offerings – without waiting on the SEC to ban flash orders – are commendable, though a telling illustration of the regulatory problems.
- Privileged information for select market participants creates information asymmetry. Whether it is advanced knowledge of research or block orders, the result for smaller investors is unfairness.
- The SEC should move to ban selectively displayed orders and indications of interest that are the functional equivalent of orders.

High-Frequency Trading (HFT)

- High Frequency Trading is estimated by the Tabb Group to represent 61% of share volume.
- The markets are so fragmented and speeds vary so much that potential for abuse needs to be subjected to a searching examination.
- Issues:
 - Regulators need deeper understanding of how these proprietary HFT algorithms use speed and cancelable orders to gain a more granular view of order flow.
 - Opportunities for abuse that exploit the market structure should be subjected to a searching examination and review and possibly prohibited. For example, in the late 1990s, the SEC regulated “SOES bandits,” groups that were making easy profits from exploiting lags of a few seconds between exchanges in the US. In 2003, we learned that sophisticated investors were actively trading international mutual funds to take advantage of a time zone differential.
 - Can HFT’s trace investor order flow and gain asymmetric information advantages without committing any capital and then use this information to execute ahead of orders in a risk-free manner?

- If it has not already done so, the SEC should investigate the claims made by two ex-employees from Renaissance Technologies, who according to press accounts said they were instructed to create trading strategies “to defraud investors trading through the Portfolio System for Institutional Trading, or POSIT.”
- When trades are executed in milliseconds, why do we permit a 90-second delay in reporting trades to the tape (and how does this affect the average investor’s ability to evaluate the quality of execution or the broker to monitor it in various execution venues)?
- How much of this high speed trading is done indirectly for investors through pension and mutual funds or ETFs? Or is it done mostly by hedge funds for their partners? Which mutual funds if any specialize in this trading?
- Do our high frequency markets need high frequency safeguards against major machine malfunctions?

Co-location of Servers at the Exchanges and other Execution Venues

- The SEC needs to ensure “fair access” by pro-actively determining a “method of allocation” of co-located capacity.
- The commission must also insure that such closeness is consistent with its plans for protection against terrorist attacks in the various business continuity directives.
- Fees for co-locating servers should be approved by the SEC.
- Agreements should offer the same terms and conditions and be transparent to regulators.
- Retail investors should have adequate choice of co-located execution by wholesalers.

Direct Market or Sponsored Access

- How much trading volume is now occurring directly (circumventing broker-dealers) between liquidity providers and execution venues?
- How does the SEC ensure adequate surveillance of these trade volumes?

Dark Pools

- There are now over 50 execution venues, many of which are dark pools. Dark pools go against the spirit of Reg NMS Rule 610, which requires fair and non-discriminatory access to quotations.
 - The growing volume of trades executed in dark pool is undermining public price discovery.
 - Order Audit Trail System (OATS) reporting should be expanded to NYSE-listed stocks and to all market centers so that regulators can better track what is happening with order execution.
 - Better understanding of the dark pools is necessary to determine the impact of dark pools on retail investors.
 - Do certain dark pools send out indications of interest to gain illumination of order flow granularity and in effect enable trades ahead of the orders?
 - Indeed we need audits of execution in dark pools and other execution venues to ensure prices at national-best-bid-or-offer.
 - Registrations of dark pools at the SEC should be transparent to the public.
 - What self-policing systems do dark pools employ concerning anti-gaming logic and rules and do these raise conflict of interest questions?

Liquidity Rebates

- The use of liquidity rebates (payment for order flow) to attract market share should be reconsidered. The London Stock Exchange has decided to end liquidity rebates by replacing them with a flat fee beginning September 1. Unfortunately, in an effort to take LSE market share, BATS will offer inverted pricing and a free liquidity removal incentive for UK stocks beginning on the 1st of September.
- If risk-free trading strategies exist that are driven solely by the ability to recoup a rebate, then what is the utility to the markets of such liquidity?

Retail Order Flow

- What are the financial inducements for directing retail order flow and are we confident they don't create conflicts of interest? For example, wholesalers get paid by the institution or HFT trader for execution against retail order flow. Does

that create a conflict of interest? Are the retail order flows being led to an HFT execution advantage, even if it's only a penny here and there?

- Disclosure of order flow payments under Rule 607 should require disclosure of the percentage of the payment that reverts to the customer.
- How many best execution cases have been brought in the last 10 years by either the SEC or FINRA?



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

THE CHAIRMAN

September 10, 2009

The Honorable Edward E. Kaufman
United States Senate
383 Russell Senate Office Building
Washington, DC 20510

Dear Senator Kaufman:

Thank you for your letter dated August 21, 2009, detailing your concerns about the current state of the structure of the U.S. securities markets. I appreciate your concerns and agree that the Commission must keep a careful watch on rapid advancements in trading technology to ensure that sophisticated traders are not favored and that regulation of the markets keeps pace with developments. We must maintain and promote the fairness and efficiency of the U.S. securities markets for all investors.

The interests of long-term investors and professional short-term traders in fair and efficient markets often will coincide. Indeed, vigorous competition among professional short-term traders can itself lead to very important benefits for long-term investors, including narrower spreads and greater depth. If, however, the interests of long-term investors and professional short-term traders conflict, the Commission previously has emphasized that "its clear responsibility is to uphold the interests of long-term investors." I firmly agree that the Commission's focus must be on the protection of long-term investors.

The recent economic crisis has put tremendous stress on the U.S. securities markets. Trading volume and volatility have reached record highs. In the face of the sharp spikes in volume and volatility, however, investors have been able to benefit from markets for U.S.-listed securities that have continued to operate in an efficient and orderly manner.

The conditions that shape a market's performance, though, are continually changing. Competitive forces drive entrepreneurial industry participants to innovate with new technologies, new products, and new trading tools. The Commission is charged with monitoring these changes in the securities markets and updating its regulatory structure when needed. To this end, earlier this year I asked the Commission staff to conduct an overall examination of dark pools. This included a review of flash orders by exchanges and electronic trading systems and the Commission will soon be considering a recommendation by Commission staff on a proposal that would prohibit the practice of displaying marketable flash orders. Commission staff is also reviewing other market structure issues, including Regulation ATS thresholds, direct market access, high frequency trading, and co-location. I would expect that any rule proposal the Commission may promulgate regarding these issues would solicit comments from outside experts, investors and small businesses on these issues. We would, of course, study all comments very seriously.

The Honorable Edward E. Kaufman
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Thank you again for sharing your concerns with the Commission. Please call me at (202) 551-2100, or have your staff call Julie Davis in the Office of Legislative and Intergovernmental Affairs at (202) 551-2010, if you have any questions or comments.

Sincerely,

A handwritten signature in black ink, reading "Mary L. Schapiro". The signature is written in a cursive, flowing style.

Mary L. Schapiro
Chairman