Statement of Dave Lauer
Before the Securities and Exchange Commission
Equity Market Structure Advisory Committee
May 13, 2015

Commissioners, Mr. Luparello, Senator Kaufman, and other members of the Advisory Committee, thank you for inviting me to speak today. I am Dave Lauer, the co-founder and CTO of KOR Group, a market structure research and analysis firm that specializes in execution quality measurement and order routing optimization. KOR Group focuses on quantitative analysis of market structure and provides the support that allows asset managers and brokers to make better order routing decisions. I am also speaking to you today as co-founder and Chairman of the Healthy Markets Association, a non-profit coalition working to empower market participants with better data and analysis. Our guiding mission is to stimulate data-driven, market-based solutions for market structure problems.

I have a long history in computerized trading, and the arc of my career has placed me on the ever-moving front line for equities trading developments over the past 15 years. I am a technologist at heart. I began my career designing hardware to power low latency trading desks before ultimately going on to design software-driven trading strategies. We focus on data and analytics and it is with that mindset that KOR Group and Healthy Markets approach the issues we are addressing today.

Introduction

I want to begin my remarks by congratulating the Commission on formulating this Advisory Committee, and by applauding the continued focus on ways of improving our market structure. Regulation NMS has been a transformative force in US equity market structure. And Rule 611 forms part of its foundation.

Our market structure has had no shortage of critics over recent years, myself included. This is not to say that Regulation NMS has not been a success. It's objectives, when adopted, were intended to democratize the trading process. It has done that – resoundingly.

But the market ecosystem it created also has some fundamental flaws, many of which could not have been anticipated even just a few years ago. We must examine these issues, and update the rules. This doesn't require us to scrap the entire framework. Instead, we should focus on the challenges within the current framework and find more optimal solutions.

I will stop short of the platitude to "do no harm," lest we be too cautious in our quest for improvements. A recent quote from a venture capitalist discussing the prospects for Google Glass pretty well sums up my take on this cliché:

> *"If you're in this business, and you don't expect failures, or to get it wrong sometimes, you're never going to do anything significant."*
> *Bill Maris, Google Ventures*

We live in a world of unintended consequences. Some are good. Others are not. If I make a mistake in my business, I will adjust, and try to move forward. I will work to learn from it and improve. So, too, should it be with our regulations. Perhaps the incredible evolution of the markets since the adoption of Regulation NMS has made the Commission too cautious to implement solutions. There have been studies upon studies of market reforms, with few significant changes.

This Committee's examination of Rule 611 is extremely welcome, and I hope will pave the way for a more proactive effort by the Commission to continuously update and modify the rules within which our markets operate. Rule 611 is both extremely complex, and open to more than its fair share of criticism.

With consideration to its original objectives as well as the prevailing benefits and criticisms of the Rule since its adoption, I'd like, today, to offer some holistic recommendations that will bring improvement to our market structure. We recommend that the Commission:

1. Update Rules 605 and 606;
2. Modernize best execution and disclosure requirements to supplement or replace Rule 611;
3. Shift the order protection responsibility from the exchanges to the brokers;
4. Re-examine execution venues' order handling and routing, including complex order types;
5. Reduce market data costs and revenue sharing;[1] and
6. Explore ways to promote trading in displayed markets and reduce conflicts of interest.[2]

Original Objectives of Rule 611

The original goals of Rule 611 were essentially two-fold:

1. To protect investors from execution at inferior prices, and
2. To promote the display of limit orders.

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[1] There have been numerous proposals over the years to reduce data costs borne by market participants. See, e.g., http://www.sifma.org/comment-letters/2013/sifma-submits-comments-to-the-sec-on-the-cta-plan-to-simplify-and-reduce-market-data-fees/.

[2] For example, see Aguilar, L., "Seeing Capital Markets through Investor Eyes," Washington, December 5, 2013; Gallagher, D., "Remarks at FIA Futures and Options Expo," Chicago, November 6, 2013; and Piwowar, M., "The Benefit of Hindsight and the Promise of Foresight: A Proposal for a Comprehensive Review of Equity Market Structure," London, December 9, 2013.

In the intervening years, we have learned that Rule 611 is ineffective at protecting investors from inferior prices, except on a limited basis for small, retail orders. We also know that Rule 611 fails to effectively promote displayed liquidity.

Since the adoption of Regulation NMS, we have seen a dramatic increase in off-exchange trading, and a commensurate increase in lit venue toxicity. This has had substantial and unforeseen consequences throughout the capital markets ecosystem. The Commission staff has acknowledged that "Rule 611 indirectly led to more dark trading by constraining the nature of competition on lit venues to factors such as speed, fees, and exotic order types, in contrast to factors that are more appealing to investors, such as liquidity and stability."[3]

Rule 611 Benefits

Rule 611 has not had many public defenders in recent years. But there are some benefits.

First and foremost, Rule 611 is one of the only explicit protections that investors have to force their brokers to demonstrate best execution. This point cannot be overstated. The state of best execution in the US is abysmal. Simply stated, the regulatory expectations of best execution have not kept pace with the changing execution environment. Quantitative analytics of execution results need to play a much larger role in best execution analyses.

Regulators have offered little help. Comprehensive data is difficult to find, analyze, and interpret. There has been no material guidance for investors on how to quantitatively measure broker performance. Rule 611 is, essentially, the best defense we have.

Rule 611 is also an important component of promoting a competitive and innovative environment, at least in theory. It provides the means for upstart execution venues to compete with entrenched incumbents. While it is difficult to argue that Rule 611 is solely responsible for the decline in NYSE's market share from nearly 80% pre-NMS to 20% today, it is certainly a major contributing factor.

Best Execution

While best execution is a linchpin of US capital markets, its resulting obligations are ambiguously defined and poorly measured. In a robust best execution environment, the order protection rule would not be needed. In today's environment, it is sorely needed. Best execution is so ill-defined, and violations so difficult to prove, that regulators have not brought a single substantial best execution case since Regulation NMS was implemented. In cases where

[3] See Memorandum from the SEC Division of Trading and Markets to the SEC Market Structure Advisory Committee 18 (Apr. 30, 2015), https://www.sec.gov/spotlight/emsac/memo-rule-611-regulation-nms.pdf (hereinafter, "Commission Staff Briefing Memorandum").

best execution could be highlighted, regulators have instead focused almost exclusively on fraud or mark-up/mark-down allegations.[4]

Rule 611 sought to provide strong intermarket price protections and offer greater assurance on an order-by-order basis. Rules 605 and 606 were intended to supplement Rule 611 by providing transparency into execution quality and broker order routing, thereby empowering investors to make informed decisions based on quantitative metrics. They don't do that now. Unfortunately, as KOR and Healthy Markets have long argued, these rules are outdated and nearly irrelevant in today's execution environment. These rules have not maintained pace with the innumerable changes in markets that have unfolded since they were developed.

As such, Rule 611 is one of the few protections that investors still have in place on an order-by-order basis to ensure that they are receiving the best price in the market. It ensures that their orders are not being filled outside of the NBBO.

We're not convinced that Rule 611 is harmful on any grand scale, nor do we believe that this rule is the root cause of increased fragmentation and complexity in US markets. We do, however, believe that Rule 611 is a terrible proxy for best execution.

Rule 611 may be the strongest protection we have but it is also clearly inadequate.

Competition and Innovation

Another of Rule 611's critical theoretical functions is the promotion of competition and innovation amongst trading venues. In the absence of order protection, the broker-dealer community could readily ignore an upstart exchange with a radical innovation that threatens its finances. This would be to the overall detriment of the market. Rule 611's order protection standards can, therefore, help to foster competition as intended.

Rule 611 Critiques

The Commission Staff Briefing Memorandum does an excellent job of addressing the primary criticisms of Rule 611, to which we will add a few.

As the Commission staff noted, Rule 611 is often blamed for increased market complexity, whether due to fragmentation or increasingly exotic order types. However, the data does not necessarily bear out this assessment. As the Commission staff made clear, the Herfindahl-Hirschman Index (a measure of fragmentation) did skyrocket for NYSE-listed securities after the adoption of Regulation NMS, but it barely moved for NASDAQ-listed securities. This suggests that the Commission's goal of breaking up its monopoly and pushing the NYSE into the electronic era was successful.

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[4] See, e.g., G-Trade Servs. LLC, Exchange Act Release No. 71,128, Investment Advisers Act Release No. 3744 (Dec. 18, 2013), http://www.sec.gov/litigation/admin/2013/34-71128.pdf.

There is also nothing inherent in Rule 611 that requires venues to create exotic order types, though it is hard to disentangle Rule 610 here. Trading venues are welcome to simply cancel an order if it would violate the trade-through rule.

For-profit trading venues have recognized a business opportunity, however. They have essentially begun to compete with brokers, offering one-stop order routing through elaborately designed complex order types and order routing offerings. Unfortunately, these order types are often so complex that few market participants – regulators included – are likely to fully comprehend how they work in practice or how they interact with other order types.

Others have countered that despite Europe's use of for-profit exchanges and its simultaneous absence of order protection, European markets have not displayed the same fragmentation and order complexity as we have seen here. I find that examining international markets can be an interesting exercise. For example, below is a table examining fragmentation in the US, Canada and Europe. We have calculated the Herfindahl-Hirschman index for various global markets based on the notional values as of April 2015.[5]

Market Fragmentation

Market	Herfindahl-Hirschman Index (0 = Monopoly, 1 = Perfect Fragmentation)
US	0.83
Canada	0.575
Pan-European	0.90
London	0.54
Frankfurt	0.51
Milan	0.36
Zurich	0.43

[5] As explained in the Commission Staff Briefing Memorandum, "The Herfindahl-Hirschman Index is [a] widely used measure of market fragmentation. It is calculated as 1 minus the sum of the squared market shares of lit venues. Under this metric, a fully centralized market would have a fragmentation level of 0 and the maximum level of fragmentation would be just less than 1." While we recognize the Commission staff performed the analysis using per share volumes, we find notional trading value a better proxy for market share and trading dynamics, especially in Europe and Canada, where the numbers are dramatically different when analyzed notionally rather than by share-based or trade-based metrics.

So, is fragmentation connected to an order protection rule and a ban on locked or crossed markets? The answer is inconclusive, to say the least.

As you can see from the chart, fragmentation in the US far exceeds fragmentation elsewhere. But the order protection rule may not be the cause. For example, Canada has an order protection rule, but its market is still much more monopolistic than in the US. In fact, Canadian fragmentation is very similar to that of London and Frankfurt, two countries dominated by individual venues but still with robust competition. Compare that to Milan, a market in which two venues – Milan (79%) and BATS CXE (11%)—make up 90% of the trading.

It is also important to recognize the role of historical forces. The US markets outside of NYSE listings have been competitive and fragmented for longer than Rule 611 has been in place, while Canadian and European markets are relatively new to market center competition. When we also look at Nasdaq's history for the past 10 years, it becomes very difficult to argue that Rule 611's order protection drives fragmentation.

The Commission Staff Briefing Memorandum also mentions a third criticism: the harm to institutional investors from having to access small-sized quotations and, consequently leaking information. The staff's response to this criticism is that investors have access to order routing systems, notably smart order routers from brokers and routing mechanisms at exchanges.

Unfortunately, access to so-called "smart order routers" is no guarantee that the orders are routed in ways that actually favor the investor. In most cases, these machines are essentially black boxes, with no real ability for investors to actually know how their orders are being handled. Are orders being routed to venues that are the most likely to fill the order, or those that give the broker the greatest profits?

These concerns are exacerbated when the order routers are those of the execution venues. Exchange order routing systems are not generally designed to appropriately access resting liquidity without commensurate order book fade. Order book fade is a phenomenon that occurs when orders ahead of an order in-flight are canceled before the rest of the order can be filled. This is typically a consequence of inferior routing systems that route serially, or blast without latency normalization.

Furthermore, brokers were not, until recently, incentivized to design order routers with latency normalization technology, which ensures that all orders **arrive** at the same time, rather than be **transmitted** at the same time. While it is fortunate that some broker order routers have evolved to take advantage of latency normalization technology, we must keep in mind that this was not the case for many years.

There are a few more common criticisms of Rule 611 than just these, however. In addition to these concerns, some have argued that Rule 611:

1. subsidizes non-viable exchanges;
2. increases connectivity costs to the industry;
3. Increases systemic risks due to the increased opportunities for failures;
4. creates unnecessary complexity and intermediation, including the promotion of complex order types; and
5. maintains a one-size-fits-all market that has not necessarily served small- and mid-cap companies well.

One unintended consequence of Rule 611 is that it, combined with market data revenue sharing, may play a key role in sustaining unnecessary fragmentation, essentially keeping exchanges in business that do not add meaningful value to, and in fact may even detract from, the markets.

Rule 611 also drives up costs for all market participants by increasing connectivity costs. While it may always be the case that no participant must connect to a particular venue, the reality is that market participants need comprehensive connections and information to stay competitive. Participants need, for business reasons, to be where their competitors are, and that means that they will incur direct and indirect costs as a result of market data, co-location, order routing and connectivity.

Practically speaking, those costs will still be passed through, and it is questionable if brokers can achieve the same execution quality by trading through an alternate router over which they have little control. This cost might be reasonable, provided that it creates an innovative and competitive environment. Rule 611 has failed to do this, however, in any way other than competing on speed and fee structure (as opposed to quality and size). In addition, the failure of disclosure and transparency standards has ensured that few venues and brokers are competing on execution quality, as opposed to basic explicit costs.

The third critique – that Rule 611 increases systemic risks – is based on the simple truth that the more points of failure you have in a system, the more opportunities you have for breakdowns. As we have seen in recent years, this may be especially true for interruptions in data flows between venues and market participants.

The relatively new order routing and handling responsibilities for many of these venues have not helped. To the contrary, much of the complexity, inter-linkages and some of the fragility in the current structure is a result of exchanges taking on order handling and routing responsibilities. There is a persuasive argument that brokers and market makers are far more skilled, not to mention properly incentivized, than are exchanges to route orders and manage linkages between venues, both lit and dark.

In our view, the Commission made a grave mistake in permitting exchanges to also become order routers. This decision has blurred the lines between broker and market center, both with lit venues and with regard to ATSs. Essentially, brokers are now acting like exchanges and vice versa. But both have inherent conflicts of interest that necessarily impede them from effectively doing both jobs appropriately. This has fostered the current condition in which exchanges are using different technology to calculate the NBBO for matching versus routing purposes, and are subsequently passing the disadvantage along to their customers. Trading venues have become competitive to their broker clients while at the same time being responsible for routing orders to their own competitors.

At the same time, brokers have become competitive to exchanges by unfairly routing to their ATSs. This has increased lit venue toxicity and helped reduce average trade size in dark pools to the level of the lit market. Combined with the choice of market data feeds to price the NBBO, it has helped to fuel latency arbitrage trading strategies.

Something here is quite obviously wrong.

But Rule 611 is not alone in deserving blame. For its part, the Commission must more critically assess order handling, routing expectations, and complex orders types. The Rules do not require exotic order types. So why have the US exchanges created these order types?

The Commission may already know the answer. In the Direct Edge settlement on Hide-Not-Slide (HNS), the Commission explained that HNS was developed "following a request" from a market participant.[6]

Interestingly, most market participants in the US are also trading in Europe and Canada, on for-profit exchanges, with and without order protection. Yet we do not see the same complex order types in those countries. Perhaps this is because competition in those markets has not yet progressed to the same level as in the US. But it could also be that their regulators simply will not allow it.

We should also understand why some firms may own multiple trading venues with nearly identical features. Common sense and basic economics would suggest consolidation would help eliminate redundant operational and regulatory compliance costs. Nevertheless, these powerful forces for consolidation seem to be overcome by the ability to reap additional data fees, connectivity fees, market data revenues, and the trading that occurs due to order protection.

[6] See SEC Fines Direct Edge With Failing to Properly Describe Order Types, available at http://www.sec.gov/news/pressrelease/2015-2.html.

As the NetCoalition case has shown us, each trading venue may be able to exert significant pricing power over its private data feeds. And there is reason to believe that the same powers apply to connectivity and co-location fees. These fees do not help the markets, but instead act as explicit taxes borne by brokers, and ultimately, investors. Put simply, the more trading venues, the more fees.

As Chester Spatt testified, “NMS creates an incentive against consolidation of platforms and even an incentive for platforms to arise and to quote because of the special advantage being provided under NMS for the best bid and offer on a platform.”[7]

Finally, many have argued that Rule 611 sustains a one-size-fits-all market that has not served small- and mid-cap companies well. For markets to work efficiently, stocks that are relatively thinly traded should have their liquidity aggregated, not fragmented. As the Commission and others are evaluating concepts surrounding so-called Venture Exchanges, this may be of critical importance. Common sense tells us that not every stock needs to trade on every venue.[8] Unfortunately, Rule 611 disincentives exchanges from not trading every symbol.

Rule 611 is not the sole culprit in this, of course, but it has played a huge role.

Recommendations for Reform

We think market structure reform is overdue, and that is should be designed to:

- better protect investors;
- promote market center innovation and competition;
- simplify structure and reduce complexity; and
- incentivize displayed liquidity.

We these principles in minds, we recommend the following reforms bother within and beyond Rule 611.

First, the Commission should update Rules 605 and 606 to provide for better transparency into execution quality and order routing practices. This includes ensuring that investors can get a full order audit trail upon request from their broker.[9]

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[7] Chester Spatt testimony before the US House of Representatives, available at http://financialservices.house.gov/uploadedfiles/hhrg-113-ba16-wstate-cspatt-20140228.pdf.

[8] We conceptually agree with BATS’s assertion in its Exclusive Listings. See Proposal.http://cdn.batstrading.com/resources/press_releases/BATS-Exclusive-Listings-FINAL.pdf.

[9] See KOR Comment letter: http://www.sec.gov/comments/s7-02-10/s70210-421.pdf.

Second, the Commission should modernize best execution rules,[10] and require quantitative analysis and independent review of executions. Conflicts of interest should be heavily scrutinized and brokers should be able to transparently demonstrate execution quality on a quantitative basis.[11]

Third, Rule 611 responsibility of order protection on an order-by-order basis should be shifted from the exchanges to brokers.[12]

Fourth, the Commission should re-examine order handling and routing by exchanges, and re-examine complex order types.

Fifth, the Commission should reduce or eliminate market data revenue sharing to stop subsidizing non-viable exchanges that detract from, rather than add, to market quality.

Sixth, the Commission should boldly explore ideas to promote trading in displayed markets. These efforts should include:

- a pilot to eliminate the maker-taker pricing model;
- exploring whether to require meaningful price improvement for off-exchange executions of non-block orders;
- demanding increased transparency into dark pool operations; and
- examining the propriety of brokers owning – and giving privileged routing status to – their own ATSs.

Disclosure and Transparency

Rules 605 and 606 need to be updated, and we continue to urge the Commission to do so. In addition, these updates should be flexible enough to accommodate further changes in market structure. Markets are changing faster than ever, and there is no reason to think that this trend will soon wane. Instead, regulators must adapt to rapid change by becoming more nimble and focused on critical disclosures. The more relevant the data put into the hands of the public and investors, the better these participants are able to make informed decisions and adapt to changing market conditions.

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[10] See, e.g., Securities Exchange Act Release No. 37619A (September 6, 1996), 61 FR 48290 (September 12, 1996); FINRA NTM 01-22 & FINRA NTM 12-13.

[11] See US Senate hearing transcript Conflicts of Interest, Investor loss of Confidence, and High Speed Trading in the US Stock Markets June 17, 2014; http://www.gpo.gov/fdsys/pkg/CHRG-113shrg89752/html/CHRG-113shrg89752.htm.

[12] See Reg NMS final rule at 26: https://www.sec.gov/rules/final/34-51808.pdf.

Modernize Best Execution

Best execution needs an overhaul. Firms are held to no concrete standards, investors and customers have no relevant way to quantitatively evaluate adherence to the standards that do exist, and there has not been any meaningful guidance on the issue from regulators. There is simply no way to reform Rule 611 in the absence of significant changes to best execution standards.

Some improvements to consider are to:

- Modernize Rules 605 and 606, along the lines of the proposals asserted by the Healthy Markets Association and the new disclosure standards promoted by ICI, MFA and SIFMA;[13]

- Ensure that investors are able to obtain full order audit trail data from their brokers (including all child orders, whether they are filled, modified or canceled) and require quantitative analysis of execution quality and venue toxicity;

- Focus on conflicts of interest in brokers' use of affiliated execution venues and payments to brokers by venues;

- Require firms to adopt modern order routing optimization techniques; and

- Encourage third-party auditing and verification of routing practices on a order-by-order basis.

These changes would help bring best execution into the modern age, would reduce broker routing conflicts such as those found in the retail[14] and institutional space[15], and would once again encourage innovation and competition over execution quality. It is time to bring Best Execution into the 21st century and update it to reflect the incredible analytical capabilities now at our fingtertips.

Push Protection Responsibility to Brokers

A simple shift in responsibility can make a big difference. Pushing the responsibility for order protection to brokers, rather than exchanges, can substantially reduce complexity, make responsibilities clear, and provide increased incentives for brokers to compete over execution quality as well as for venues to innovate the ways in which they attract order flow. Further,

[13] See http://www.ici.org/pdf/28480.pdf.

[14] See Battailo, Corwin, and Jennings, Can Brokers Have It All? On the Relation between Make-Take Fees and Limit Order Execution Quality, Mar. 30, 2015, at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2367462.

[15] See People of NY State vs Barclays PLC, at http://www.ag.ny.gov/pdfs/NYAG-Amended-Complaint.pdf.

brokers are far more sophisticated at order routing now than they were when Regulation NMS was first designed. Times have changed and technology has changed, and this is an excellent opportunity for the Commission to catch up to those changes.

This reform would be more dramatic than most that we are recommending, but it would also be the most compelling force in reducing market complexity and fragility, and in shifting the burden away from the SROs. We firmly believe that this change, when combined with transformed disclosure and measurement requirements, could help to increase competition and innovation while dramatically reducing structural complexity. We urge the Committee to seriously consider taking this measure.

Reconsider Order Handling and Routing by Exchanges

By pushing the responsibility for order protection to brokers rather than SROs, the Commission could reconsider the ability for these SROs to handle and route orders. This capability is a circumstance of history, not of necessity, as the ECNs required this functionality before they were turned into exchanges. This is yet another source of unnecessary complexity in modern market structure, and has created the need for a myriad of order types and routing functionality. If order protection responsibility is placed on the broker, this functionality, as well as many complex order types, could be substantially reduced or eliminated.

It is also important to emphasize the fact that exchange-based order routing systems are far inferior to those operated by top tier broker/dealers. Without appropriate disclosure, it is impossible to quantify this disadvantage, but it is well understood in the industry. There is no longer a need for these routing systems. As noted, we have capabilities today that did not exist when Regulation NMS and Rule 611 were designed. Our regulatory framework needs to be updated to reflect this.

While elimination of such functionality might be considered a draconian move, subjecting these order routing systems to the same level of enhanced disclosure that we are proposing could allow brokers and investors to make more informed decisions. This could enable market forces to penalize inferior routing systems at brokers and SROs, to the benefit of healthier markets.

Reduce or Eliminate Market Data Revenue Sharing

According to the Consolidated Tape Association, through March of 2014, $379 million in annualized revenues were generated through the CTA/UTP plans[16], $317 million of which was allocated to SRO exchanges. One of the main criticisms of Rule 611 is that it subsidizes non-viable exchanges. Whether or not this is true, there is no doubt that the rule provides some subsidy. What is much clearer is that market data revenue allocation subsidies also play a role.

[16] See SEC Release No. 34-73278; File No. SR-CTA/CQ-2014-03.

The Commission did take initial steps to promote greater transparency with respect to market data fees[17]. Among others things, this would require that SROs file public reports with the Commission detailing their sources and use of revenues. This would allow the public to evaluate the role of market data revenues in funding SROs. It is unfortunate that amendments to Form 1, Exhibit I were not adopted. We believe this decision should be reconsidered.

Re-Examine Forces Driving Off-Exchange Trading

As we have urged, and the Commission has repeatedly recognized, market structure changes and reforms must be considered holistically. It is impossible to speak about reducing complexity and fragmentation without addressing the dramatic rise in off-exchange trading since the passage of Regulation NMS.

Off-exchange trading can and should play a critical role in modern markets. Large investors need to have a collection of competing venues on which they feel confident and comfortable showing large orders. This gives market participants the opportunity to encounter other natural investors looking to take the other side of a given trade. [18]

That said, the current volume of off-exchange trading seems unnecessarily high, and appears to detract from market quality. Further, the current execution sizes on many of these venues suggest that they are not necessarily havens for large orders. So why are so many orders being routed into dark venues?

As we see it, the forces driving off-exchange trading are primarily:

1. The 30 mil fee cap in the Maker-Taker business model;

2. The lack of market integrity rules that mandate minimum price improvement or size for off-exchange trading; and

3. The creation of broker-owned alternative trading systems without sufficient oversight and disclosure.

With some simple changes, we believe that the trend of increasing off-exchange trading can be reversed, and the resulting toxicity of lit venues can be reduced.

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[17] See SRO Structure Release No. 34-50700; File No. S7-40-04.

[18] See David Lauer testimony before the Senate Committee on Banking, Housing, and Urban Development, available at http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=56ef1df0-6c9a-4c53-99e8-2ad7a614afe2 ("I would say that the proper role for dark pools is probably how they were originally envisioned, which is as crossing networks for block trades, a way for institutional investors to put interest out there without tipping their hand to the market, not as a place that is extremely fragmented with order sizes that are the same as or smaller than the lit markets.").

We urge for reform of the Maker-Taker model, beginning with a pilot that would eliminate rebates. In addition, we continue to advocate for rebates to only be available to accredited market makers whose established trading practices demonstrate their commitment to maintaining fair and efficient markets and to providing liquidity.

While we generally do not favor government-imposed price controls, we would at least like to see the fee cap reduced dramatically. We believe—just as BATS argued[19]—that a fee cap of 5 mils is far more appropriate than 30 mils. This is a good short-term solution that would help to reduce off-exchange trading and lit venue toxicity. We do not, however, consider it a long-term solution. We would go further than BATS and argue that tiered pricing should be eliminated, as this is yet another incentive that distorts broker routing practices and obfuscates execution costs in post-execution analysis.

We are also troubled by the fact that executions may take place off of an exchange, regardless of the price improvement received. According to the Commission staff, "[d]ata analysis indicates that more than 50% of dark trading volume is executed at prices that merely match displayed prices, and an additional 19% of volume is executed at prices less than 1⁄2 cent better than displayed prices. Consequently, the great majority of dark volume is executed at prices that are not substantially better than those offered by displayed limit orders."[20]

A simple but meaningful change would be to adopt market integrity rules similar to those in Australia and Canada, and to mandate that meaningful price improvement is required for non-block trades to take place off-exchange. This would help address payment for order flow and would redress many of the small trades currently taking place in ATSs. These orders are highly valuable, and should be placed in lit venues to promote open competition for order flow. This assertion echoes a key pillar of the Healthy Markets platform.

Finally, we would encourage the Committee and the Commission to re-examine the right for broker-dealers that are handling orders to own and operate Alternative Trading Systems, or at the very least, to preference those systems in their order routing decisions. We do not believe that the massive conflict of interest this creates can be overcome by increased transparency and disclosure (though it would help). We also believer this conflict is unnecessary for ensuring superior execution quality for investors. Instead, investors would be far better served by fewer, independent ATSs.

Open competition for order flow is a critical component to improving market making diversity and reducing venue toxicity.

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[19] See http://cdn.batstrading.com/resources/newsletters/OpenLetter010615.pdf.

[20] See Commission Staff Briefing Memorandum, at 18.

Collectively, we believe these changes would continue to help dramatically reduce market structure complexity and fragmentation and lead to far healthier markets for investors and other market participants.

Conclusion

Thank you for the invitation to speak with you today, and I look forward to the discussion.

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TRANSPARENCY & TRUST

KOR groupLLC

Who We Are

KOR groupLLC

- Founded in 2013
- Quantitative analysis of market structure, focus on buy-side and broker routing

HEALTHY MARKETS
TRANSPARENCY & TRUST

- Founded in 2014
- Non-profit coalition working to empower regulators and market participants with better data and analysis

Rule 611 Objectives and Benefits

- Objectives
  - Protect investors from inferior execution prices
  - Promote limit order display
- Benefits
  - Only order-level best execution protection
  - Theoretically encourages innovation and competition

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Rule 611 Criticism Overview

- Increases fragmentation
- Creates unnecessary complexity
- Subsidizes non-viable exchanges
- Increases cost to industry (connectivity, market data, co-location)
- Promotes one size-fits-all market structure

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Specific Criticism: Fragmentation

- Does it really increase fragmentation?

Fragmentation Across International Markets	
Market	Herfindahl-Hirschman Index (0 = monopoly, 1 = perfect fragmentation)
US	0.83
Canada	0.575
Pan-European	0.9
London	0.54
Frankfurt	0.51
Milan	0.36
Zurich	0.43

- Canada has order protection, ban on locked/crossed markets; Europe does not.

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Specific Criticism: Subsidies and Complexity

- Addressing subsidies addresses excess fragmentation
  - Order protection small element
  - Market data revenue sharing
  - Connectivity / Co-Location / Private Data
- Order routing / handling responsibility creates complexity in connectivity and order types

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Recommendations

- Update Rules 605 and 606
- Modernize best execution
  - Conflicts check primacy
  - Audit trail availability
  - Independent audits
  - Quantitative standards
- Push Rule 611 responsibility to broker
- Re-examine order handling/routing at SROs

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Recommendations

- Re-examine influence on off exchange trading together with Rule 611
  - Pilot to eliminate maker-taker
  - Require meaningful price improvement for off-exchange trading
  - Increase disclosure and transparency for ATSs
  - Re-examine ability for major order routing brokers to prefer their own ATS

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