May 6, 2015

Brent J. Fields
Secretary
Securities and Exchange Commission
100 F Street, NE
Washington DC

Re: SEC Equity Market Structure Advisory Committee, File No. 265-29

Dear Mr. Fields:

Thank you for the chance to comment on the Equity Market Structure Advisory Committee ("Advisory Committee"). My comments will be about the agenda for the first session of the Advisory Committee, a discussion of Rule 611 on May 13. I look at the proposed agenda within the context of rising calls from some segments of the industry to allow locked and crossed markets and trade-throughs in National Market System ("NMS") stocks. High frequency trading firms and their caravans have been particularly loud here, with recent entreaties from an exchange group, a lobbying group, and a variety of high frequency firms to repeal Rule 610 and Rule 611, or to change the definition of a protected quote to exclude a number of displayed market centers. It's as if sometime last year someone blew a whistle and everyone came running, including, strangely enough, the Advisory Committee.

It's strange because on the fifth anniversary of the 2010 Flash Crash (Happy anniversary!) I can think of lots of topics in the public interest the Advisory Committee might want to discuss. We're all relieved we haven't had another broad-based $1 trillion crash in the equities markets, but we have seen sector-based indexes flash crash, and we've seen commodities, interest rates, foreign exchange, and overseas markets flash crash. After the 2010 crash, the Joint CFTC-SEC Advisory Committee on Emerging Regulatory Issues ("Joint CFTC-SEC Committee") came out with a list of recommendations for reforming the country's stock markets to prevent these crashes, and a review and discussion of those recommendations would have been a useful way for the Advisory Committee to begin work. The Advisory Committee could even take on the very latest development, Navinder Singh Sarao's spoofing arrest and the government's allegation he contributed to the Flash Crash. A futures exchange apparently knew about Sarao and didn't do much to stop him. It would be nice to know what the equities markets do about spoofing.

If those don't excite, another topic an advisory committee might want to talk about on this anniversary is applying Reg SCI to all firms with direct access to the NMS. After all, SEC officials have attributed at least some single-stock flash crashes to poor firm controls, and the roster of firms regulators have sanctioned and fined for poor technology controls over the last few years reads like an FIA Principal Traders Group ("PTG") membership list. Just the other day a group of regulators from around the world, including lots of central banks and the SEC itself, issued a report saying "unexpected events linked to algorithmic and high-frequency trading have caused significant volatility and market disruption…" and "The immediate need for stronger controls is paramount."

But these topics didn't make the cut for the Advisory Committee's inaugural meeting, scheduled for a week after the Flash Crash's fifth anniversary. Apparently the most pressing equity market structure issue is Rule

611, which is just industry shorthand for repealing Rule 610 and Rule 611, eliminating the ban on locked and crossed markets and allowing trade-throughs. That this is what some exchanges and the PTG want to discuss isn't surprising. What surprises is that the Advisory Committee agreed to it, not only because other topics are more urgent to the public interest, but because repeal will be a huge gift to high frequency firms and will be profoundly anti-competitive. Five years ago the Joint CFTC-SEC Committee, made of current and former regulators, economists, Nobel laureates, and other industry dignitaries, recommended *depth* of book protection. Next week this new advisory committee will seriously consider *no* book protection at all.

**Thank you**

Of course, we already know what the world will look like without Rule 610 and Rule 611. Until Reg NMS, the exchange-listed markets were governed by the Intermarket Trading System ("ITS") plan. The plan generally prohibited locked and crossed markets and trade-throughs. Those prohibitions had been in effect for decades. A public policy choice going back to the 1975 amendments, Congress wanted investors to get the best prices available in the marketplace no matter which exchange posted them. But the ITS plan rules were routinely ignored by some exchanges. Those exchanges didn't want to give up their liquidity to competitors, so they all-too-often ignored their obligations.

As a consequence, trading market share among the many stock exchanges in the country stayed very unevenly distributed, with some exchanges having near-monopolies in their own names for decades. Legend has it that when a regional exchange like Boston or Philly used ITS to complain to a major listing exchange that it had traded through, a frequent reply over the ITS network was simply "Thank you," which really meant something far more vulgar and dismissive than "Thank you." That's how you killed off competition.

Whatever ITS mandated, exchanges could do what they liked, and they did. As a result incumbents maintained near-monopoly market share in their listings and competition faced significant barriers to entry. Yes, customers didn't always get the best available prices, but if a customer complained the exchanges gave one excuse after another, or just ignored the customer altogether. Brokers had best execution obligations, but those could be turned into weapons against them. Some exchanges visited their members and said something along the lines of "Nice best execution requirement you have there. Be a shame if you had a problem with that." and strongly implied best execution really meant keeping their order flow at home no matter what other exchanges quoted.

With that as background it's no surprise to see a large exchange group petition the SEC to redefine protected quotes with little more justification than that these rules introduce too much "complexity" into markets. Perhaps a complexity monster is enough reason. After all, that exchange group found its own IPO quite complex. Or perhaps it hopes for better market share by keeping more of its liquidity at home, at the expense of its competitors. That will come at the expense of investors too, who will no longer be guaranteed the best prices in the market, and who will be left to whatever becomes of best execution rules no matter how they might be interpreted or gamed. Without protected quotes, without Rule 610 and Rule 611, exchange incentives too easily revert to what they were in the ITS days. Quote competition is how exchanges attract business today, but that can metastasize to strong-arming members, in whatever ways an exchange can dream up, to game best execution rules and keep all their orders on the exchange. Any erosion of Reg NMS risks warping market center incentives and behavior and will be profoundly anti-competitive.

Like some in the industry, the petitioner complains that Reg NMS is a regulatory "subsidy" for smaller market centers. But almost a decade ago that petitioning exchange group took off from a Kansas City storefront in part because regulators plowed the way. Regulators plowed the way with a fistful of “subsidies” guaranteeing it access to public markets. Soon after it launched as an ECN – a whole category of subsidy, by the way – it started quoting through the then-smallest exchanges in the NMS, long before it became an exchange itself.[1] If the terms of its petition were in force back then, its quotes on those tiny exchanges could have legally been ignored, which is now exactly what it wants the SEC to allow it to do to its smaller competitors.

The most charitable way to describe this part of the petition is that it's a little forgetful of the company's own past. Its quotes on those tiny exchanges couldn’t legally be ignored, and the firm competed and grew with the help of that regulatory “subsidy” protecting them. Without a rulebook full of regulatory subsidies of one kind or another, in the free-for-all marketplace apple-cheeked Randians dream about, large incumbent exchanges would have strangled that business in its storefront’s vestibule.

Every pro-competitive regulatory intervention is a regulatory subsidy, so a phrase critics intend as an indictment is empty rhetoric. Reg NMS has done what it set out to do, and its continuing relevance is obvious. In the exchange market, trading market shares, lop-sided until Reg NMS was implemented, are far more evenly distributed among major exchange groups than before, something you might expect in this commoditized industry, and while there are a couple of very small exchanges and may soon be another (IEX), processing their quotes can hardly be any material burden to their billion dollar competitors.

**The fragmentation complexity monster**

Just before Reg NMS rolled out there were ten operating stock exchanges. Now there are eleven. Three exchanges of the ten predating Reg NMS have since shut down. Four exchanges have been created since Reg NMS and are still operating.

Many complain about market fragmentation and blame Reg NMS for it. Even the SEC seems to believe Reg NMS is at fault, or, at least, some commissioners seem to believe it. Among practitioners, the PTG, a lobbying group for high frequency trading firms, is not shy in blaming Reg NMS for “excessive market fragmentation.” The PTG recently tweeted “Trade-through rule has created significant growth in the number of exchanges in the market and hundreds of order types,” apparently believing the net increase in exchanges from ten to eleven since Rule 611 implementation counts as significant growth.

It’s an uninformed opinion, but coming from one of the industry’s preeminent trade groups we should take notice. Some very well-educated and rigorous quantitative talents are members of the PTG. The group believes in data, in economic reasoning, in hard evidence, and in particular the PTG regularly insists regulatory efforts “should be supported by solid empirical evidence and rigorous economic analysis.” Its European cousin, the FIA European Principal Traders Group (“EPTG”), is of the same mind about regulation, its chairman having once cautioned regulators against “basing regulations on evidence that is merely anecdotal.”

So it’s pretty funny to see these same crowds turn around and fault Reg NMS for all sorts of ills without any evidence at all, without so much as a footnote. That tweet about “significant growth in the number of exchanges” is just one example. There isn’t any evidence either in a white paper the PTG recently put out

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[1] See "BATS to Quote on ISE and NSX," Business Wire, August 29, 2007.

advocating repeal of Rule 610 and Rule 611. In that white paper the PTG asserts that Rule 611 has led to "dramatic growth in the number of exchanges and other trading venues in recent years" but offers absolutely nothing to support its claim. A net increase of one exchange is dramatic growth?

Digging deeper, the four new exchanges born since Reg NMS evolved from two ECNs, each of which split in two to deploy different maker/taker models. It's much more plausible to say maker/taker pricing and its inverse led to too many exchanges, or that we have too many exchanges because the order handling rules created ECNs and at a certain size they found exchange economics too attractive to ignore, or that we have too many exchanges because technology makes it easier than ever to create a new exchange. It's also pretty funny that all four of these new exchanges belong to the very same exchange group now petitioning the SEC to exclude its smaller competitors from Reg NMS protection, complaining the market's too complex. It owns every exchange created since Reg NMS and then grumps about how the market's more complex after Reg NMS? Now *that's* comedy.

There certainly has been a proliferation of dark pools since Reg NMS but it's a coincidence. According to the SEC, by 2002 there were already ten registered ATSes trading NMS stocks, a creation rate of about 3.3 per year from the date Reg ATS became effective, well before Reg NMS. At that rate going forward we would expect about 33 ATSes trading NMS stocks by 2009, and according to the SEC there were 32. By 2013 we would expect about 46, and according to the SEC there were 44. Whatever's driving ATS growth seems to be quite consistent over the last 15 years and has nothing to do with Reg NMS.[2]

In other words, based on the evidence it's not true Reg NMS caused market fragmentation. Fragmentation already existed. It might come from the order handling rules, Reg ATS, exchange economics, the dispersion of matching system technology, maker/taker pricing, or other factors, but no evidence points at Reg NMS, though that doesn't stop rent-seeking pleas from a high frequency trading lobby (more on that below) and a comical exchange petition.

**The order type complexity monster**

Another reason there are calls to repeal Rule 610 and Rule 611 is the staggering number of order types market centers have created. There are thousands of order type and order modifier combinations, from vanilla day-only limit orders to reserve orders, discretionary orders, pegged orders, add liquidity-only orders, hidey-slidey orders, and who-knows-what-else. Repeal proponents maintain that so much of this is because of Reg NMS, and say if Rule 610 and Rule 611 were repealed the order type menu would shrink to a much more manageable size. Our friends at the PTG say Reg NMS is responsible for "hundreds of order types" and its repeal would reduce the need for them. Here too the PTG offers no evidence for its assertions. That's because there's not much evidence for them other than the certain fact that if ISO orders are eliminated we won't have ISO orders. And there are plenty of reasons to believe order type complexity remains or gets worse.

In the last 15 or 20 years order type complexity has mainly evolved from routing practices, maker/taker pricing, order flow segmentation, queue position strategies, and the deployment of order management functions in matching engines.

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[2] See "Regulation of Non-Public Trading Interest," Release No. 34-60997, File No. S7-27-09 (2009), "Concept Release on Equity Market Structure," Release 34-61358, File S7-02-10 (2010), and "Alternative Trading Systems: Description of ATS Trading in National Market System Stocks," Tuttle (2013).

Reg NMS mandated routing practices but parts of the industry were well along that path because of customer demand and competitive pressures. For exchanges which had already built a “best price” routing model, Reg NMS was a trivial extension. For exchanges which hadn’t, or which had done it haphazardly, Reg NMS forced the point, which was indeed the point. Now that displayed market centers have best price routing models, even if Reg NMS is repealed market centers won’t necessarily eliminate those functions because now there are constituencies for different kinds of routing behavior. If a participant’s order is marketable against away markets, there are constituencies for routing the order but also for cancelling it, for hiding it off the book until it won’t lock or cross, for hiding it off the book until it’s marketable against the book, for repricing it to neither lock or cross, and for who knows what else. Not one of these constituencies goes away anytime soon if Rule 610 and Rule 611 are repealed.

Instead, more constituencies will pop up. To an already long list we will see constituencies for locking or crossing away markets, for repricing an order to lock if it crosses, or even for hiding an order until it locks, among others. Order type complexity actually gets *worse* as constituencies form for different kinds of once-prohibited intermarket behavior, including for locks and crosses and discriminatory routing practices that pick and choose between friendly market centers and unfriendly ones.

Order type complexities built around maker/taker pricing won’t go away either; there are constituencies that want to get paid and constituencies that don’t mind paying. Order flow segmentation complexities don’t go away; we’ll still have directed orders and retail liquidity programs. Order management functions stay around too, with reserve orders and discretionary orders and random reserves and pegged orders and pegged with offset orders and more.

The only way order type complexity reduces with repeal is if market centers stop routing out and the National Market System reverts to 1960s-era silos, and while there is no doubt a self-interested constituency for those silos, this can’t be what the SEC, Congress, or the public wants.

What does repeal simplify other than to eliminate ISOs? If exchanges don’t fall back into silos, all we will have accomplished is to add more complexities when an order locks or crosses and clear the way for discriminatory routing tables, while tossing decades-old pro-investor public policy out the window. If exchanges do retreat into silos, we will have also wholly undone more than 40 years of effort in the public interest.

**Money for nothing**

Nothing so whets the appetite of a high frequency firm as the idea of crossed markets and the riskless profits clearing them. Under Reg NMS an investor with a limit order priced through away markets at least has a chance of capturing better prices, but if Rule 610 and Rule 611 are repealed and that investor’s order is posted instead of routed, high frequency firms will race to pick him off. In that way one of the last remaining constraints on HFT is from exchange routing brokers, so the industry no doubt hopes to make them fade away. To do that, Reg NMS has to go.

If it does, an already counterproductive and wasteful HFT speed arms race explodes. Since research shows that the HFT industry is already heavily biased in favor of large incumbents in a “winner-take-all industry structure”[3] Reg NMS repeal will act as little more than a gift to the largest and fastest HFT firms, one that costs investors penny-for-penny whatever pennies those firms collect. Profits will certainly bloom for HFT, at

[3] “Risk and Return in High Frequency Trading,” Baron, Brogaard, Kirilenko (2014).

least until the exchanges realize how much more valuable their co-location and direct data feed services are and raise prices.

What about locked markets? The complexity argument is silly enough, and sillier still if anyone thinks allowing locked markets but prohibiting crossed markets changes anything. If locked markets are allowed but crossed markets remain prohibited, whatever order types and procedures are in place to handle locked and crossed markets will have to stay in place to handle crossed markets. And locked markets will hurt investors too.

Investors reasonably expect displayed orders at the same price to trade. An investor who first displays a competitive bid or offer should be rewarded with a fill against any later contra at his price. That principle encourages displayed orders, clears markets, and is a drag on rebate gaming. About this the SEC once wrote, “Often, the locking market participant is not truly willing to trade at the displayed locking price, but instead chooses to lock rather than execute against the already-displayed quotation to receive a liquidity rebate….When two market participants are willing to trade at the same quoted price, giving priority to the first-displayed automated quotation will encourage posting of quotations and contribute to fair and orderly markets.” One way to reflect on this is to wonder whether if we allow locks across markets, we won’t also allow locks within a market, and then imagine what that will do to investor perceptions. And if we don’t allow displayed bids and offers at the same market to lock, why won’t we? What’s the difference?

The SEC also once wrote, “The Commission agrees that strengthened protection of displayed limit orders would help reward market participants for displaying their trading interest and thereby promote fairer and more vigorous competition among orders seeking to supply liquidity. Moreover, strong intermarket price protection offers greater assurance, on an order-by-order basis, that investors who submit market orders will receive the best readily available prices for their trades.” To the larger policy matter, the SEC quite directly said, “The basic principle underlying the NMS is to promote fair competition among markets, but within a system that also promotes interaction between all of the buyers and sellers in a particular NMS stock. Allowing market participants simply to ignore accessible quotations in other markets and routinely display locking and crossing quotations is inconsistent with this principle," which is exactly right.

Sincerely,

R. T. Leuchtkafer