INSTITUTE FOR AGRICULTURE AND TRADE POLICY

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Secretary of the Commission

Commodity Futures Trading Commission (CFTC) (via the CFTC website)

"Concept Release on Risk Controls and System Safeguards for Automated Trading Environments (RIN 3038-AD52: 17 CFR Chapter 1)[i]

The Institute for Agriculture and Trade Policy (IATP) is pleased to submit the following comment on the CFTC's "Concept Release" (CR) on automated trading, including High Frequency Trading (HFT). The focus of our concern is the utility of HFT in liquidity provision for price discovery, particularly in commodity markets.

An analysis of Thomson-Reuters tick data, cited in the CR (Federal Register Vol. 78, No. 178, September 12, 2013: p. 56561, footnote 108), estimates that "at least 60–70 per cent of commodity price changes are now due to self-generated activities rather than to [trader response to] novel information."[ii] These activities include HFT placement, cancellation or transaction of orders that take place in milli-seconds, far too rapidly to incorporate supply/demand, logistical, regulatory, or other kinds of news that affects price formation in commodity markets. Commodity derivatives contracts are now only a small fraction of the gross notional value of the derivatives contracts overseen by the CFTC. However, if regulation does not help enable efficient price formation in the relatively lightly capitalized commodity markets, it is unlikely to be able to so for the greater number and trade volume of financial derivatives created by the aforementioned "self-generated activities."

IATP is a non-profit, 501.c3 non-governmental organization, headquartered in Minneapolis, MN with an office in Washington, D.C. Our mission states, "The Institute for Agriculture and Trade Policy works locally and globally at the intersection of policy and practice to ensure fair and sustainable food, farm and trade systems." To carry out this mission, as regards commodity market regulation, IATP has participated in the Commodity Markets Oversight Coalition (CMOC) since 2009. The CMOC is an alliance of commercial hedgers and public interest groups that advocates for government policies to ensure transparent and orderly markets that serve the interests of bona fide hedgers and consumers. Both as a member of the CMOC and as an individual organization, IATP has submitted several comments on Commodity Futures Trading Commission (CFTC) rulemaking to implement Title VII of The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 ("Dodd-Frank Act"). IATP has responded to the International Organization of Securities Consultation Paper on "Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency"[iii]. We also have monitored the ongoing negotiations on HFT in Articles 51 and 51a of the revision of the European Union's Market in Financial Instruments Directive (MIFID2).

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General comment

IATP is grateful for the work of the CFTC staff and the Technology Advisory Committee working groups for providing a compendium of information about industry Automated Trading Systems (ATS) and practices. This compendium serves as a basis for the Commission's consideration of whether it should begin rulemakings to standardize disparate reported market participant, exchange and clearing organization practices and risk controls. The CR poses many challenging questions on computer technology prophylactic measures to prevent catastrophic market events. An underlying supposition of many of the questions is that the ever increasing speed of ATS will drive risk management system operations: "The speed of such automated processes has necessarily shifted the risk management functions to parallel automated risk management systems acting with equal speed". (FR 56547) But market regulation is not simply a matter of trying to prevent individual market participants from trading at speeds faster than their risk management capacities or the capacities of the exchanges in which they trade. Prudent measures may not only require technology pauses and other risk controls to slow down trading to prevent market disruptions, but banning products or practices that incite market disruption.

For example, the CR does not pose questions concerning whether ever faster trading and the huge order to trade ratio of HFT promotes efficient and transparent price discovery, particularly for commercial hedgers in commodity markets. As a result, for example, HFT practices such as "rebate harvesting," wherein trading algorithms "harvest" rebates offered by trading venues for the volume of orders whether or not they result in transactions, are unremarked in the CR.[iv] Consequently, no questions are posed about whether "rebate harvesting" provides or takes liquidity from the market and whether the Commission should ban "rebate harvesting", at least for non-market making participants.

As the Commission deliberates on whether to initiate a rulemaking process resulting from issues raised in the CR (question 1), IATP urges the Commission to not base such rulemaking simply on current knowledge about the technology underlying ATS and HFT, since that technology and its interaction with the market place will surely evolve. Rather the Commission should also review the history of regulation and deregulation that enabled the ATS market share dominance documented in the CR (12-13) and elsewhere. For example, elimination of minimum trading sizes, huge reductions in tick sizes (minimum pricing increments) and the introduction of new order types are enabling (de)regulatory factors in the ATS and HFT revolutions.[v] Have such deregulatory measures helped to realize the public policy objectives of the Commodity Exchange Act (CEA) and the Dodd-Frank Wall Street Reform and Consumer Financial Protection Act (DFA)?

The Commission also should review the Congressional testimony on ATS and HFT to gain insight into the kinds of broader normative issues and oversight options not referenced in the CR. For example, testimony to the U.S. Senate by the Head of U.S. Equity Trading for T. Rowe Price, questioned whether HFT practices had caused the Securities Exchange Commission Regulation NMS (National Market System) to become ineffective in regulating an increasingly fragmented equities markets. He made several suggestions of pilot programs that would test that proposition.[vi] At the same hearing, another witness asked whether the flight of retail investors from equity markets and the drop in Initial Public Offerings were consequences of HFT dominance in both exchange and OTC trading.[vii]

Both the SEC and the CFTC are considering whether to initiate rulemaking on HFT and ATS. The CFTC, of course, does not have authority over equity markets, but its staff and advisory

committees have and will continue to learn from the equity flash crash experience. The CFTC should review studies and hold hearings on the effect of HFT on non-equity based derivatives and commercial hedger participation, commodity price formation and commodities price co-movements.[viii]

Since ATS and HFT minimize human intervention, and since the design of AFT and HFT algorithms is proprietary knowledge, rules defined in terms of the intent of traders, including those concerning market manipulation and fraud, are likely to be difficult and expensive to enforce. The CR notes that in July 2013 the Commission settled charges against a HFT firm for "utilizing a computer algorithm that was designed to illegally place and cancel bids in futures contracts" (FR, 56549). However, as Commissioner Bart Chilton stated in his concurrence (FR, 56573), the fines levied by the Commission for this and other violations of the CEA and DFA are far too small to be dissuasive, and the profits to be made far too great for market participants not to be tempted to break the law. Hence, to become dissuasive, the Commission should seek statutory authority to levy not only larger fines, but to remove the one fine a day limit to enable the Commission to levy multiple intraday sanctions on the same entity.

IATP believes that the Commission will initiate ATS/HFT rulemakings, not only to carry out the public policy objectives of the CEA and the DFA, but also to ensure that the U.S. will have a regulatory framework that will harmonize with MiFID2 Articles on HFT, for which European Securities and Markets Authority rulemaking likely will begin in 2014. Towards harmonization, we believe the Commission's rulemaking process will need to address the "larger issues" of HFT oversight, as recommended by Commissioner Chilton, and not just the "technology related" issues, important as they are. For example, it is important that "the Commission intends to finalize the co-location rulemaking by the end of the year" (FR 56546) so that access to and fees for using ATS and HFT terminals are uniform and non-discriminatory. But rulemaking on equitable access to terminals, though highly desirable, does not in itself address the larger issues alluded to in Commissioner Chilton's concurrence.

The CFTC's request for comment is directed explicitly to the financial services industry: "The Commission seeks extensive public comment regarding each risk control contemplated herein . . . Each commenter should identify the specific risk controls that it already employs. . . In all cases, commenters should discuss, and quantify wherever possible, the costs and benefits of pre-trade risk controls, post-trade reports and other post-trade measures, system safeguards and other protections discussed in this Concept Release" (FR 56544). IATP is evidently not a participant in automated trading, nor can we discuss cost and benefit estimates of each of the risk controls and other measures contemplated in the CR.

However, we note the issue of costs to industry of contemplated individual risk controls figure far more prominently in the CR's 132 often multi-part questions than do the more difficult to quantify benefits of more stable financial markets providing efficient and low cost capital intermediation. Insofar as a large share of automated trading practices are applied to Over the Counter derivatives, IATP urges the CFTC to consider the benefits of regulating automated trading in the broader context of the regulation of OTC derivatives. According to a recent Bank of International Settlements study, the macroeconomic benefits of OTC regulation ***were estimated to be about four times the costs of regulation*** (our emphasis). [ix]

A final remark to this general comment is that several of the questions are framed in such a way as to assume that the CFTC will delegate its authority to Designated Contract Markets (DCM),

Self-Regulatory Organizations or even to individual market participants. For example, the discussion of "message and execution throttles" is framed in a way that assumes the Commission will delegate its authority to regulate, e.g. "Should these thresholds [for use of the message and execution throttle"] be set by the exchange or by the market participant" (question 11)? Even if the Commission has determined that the disruptive ATS practice of placing and cancelling large numbers of orders (order stuffing, FR 56553) [x] is not widespread, why would the Commission wish to delegate its authority to set, monitor and enforce the aforementioned thresholds?

Responses to specific and embedded questions

Pre-trade risk controls

The CR reviews research on the wide range of pre-trade risk controls that trading firms and exchanges report to be using: "Pre-trade risk controls span order size limits, intraday position limits, credit limits and message throttles. These can vary by asset class, exchange, and other market factors, such as volatility levels and current positions of the trading firm" (FR 56551). The Commission wisely seeks to elicit comments that would verify these reported pre-trade risk controls, the extent of their heterogeneity and "reasons for it, and whether regulatory standardization can be of benefit" (FR 56551). IATP believes that unless the Commission receives verifiable documentation that these pre-trade risk controls of individual firms, intermediaries (e.g. Commodity Pool Operators) and exchanges are consistent and effective in preventing market disruption, the Commission should assume that regulatory standardization will be beneficial for each kind of pre-trade risk control and at each phase of the trade cycle, from order placement to execution and clearing.

For example, the Commission should consider how to standardize the reported practice of one DCM to reduce excessively high order to trade ratios by levying fees based on the Weighted Volume Ratio calculations, effectively a fee on unfilled orders. (FR 56550) Among the virtues of such a fee is that: 1) it would be too small to affect traditional investors; 2) because it would be applied to all DCMs and Swaps Execution Facilities, it would replace the order to trade ratios whose differences among exchanges leave that regulatory tool vulnerable to circumvention and arbitrage; 3) "it would make economically unviable any abusive strategy based on massive amounts of orders sent to exchanges without the intention to trade".[xi]

The questions 8-13, concerning "throttles" to slow down trading during extreme market volatility, trend towards reliance on individual trading entities to decide the criteria for determining the throttle design and when to use the throttle. Rather than respond to these questions individually, we will paraphrase them, in order to respond to the challenge of standardizing criteria for message and execution throttles. Questions 8-9 suggest that order placement and trade execution throttles should be set in relation to the risk management capacity of individual trading entities. Question 10 suggests that these throttles might be set according to "market conditions, risk parameters, type of entity or other factors," heterogeneous criteria that do not conduce towards standardization in the design and use of the throttles. Question 11 implies that thresholds of trading activity "for each type of market participant" should be used to trigger the use of order and execution throttles. Question 12 asks "Are message and execution throttles typically set by contract or by algorithm?"

If each order and execution rate is built into each algorithm or contract, it is hard to see how standardized message rates and throttles could be set transparently, monitored and enforced by

the Commission. Thresholds for triggering use of the throttles would be extremely complex, involving type of market participant, market conditions, risks parameters and other criteria, which in aggregate would make standardization of message rates and throttle use difficult to calibrate, per the options implied in these questions. Given the answer options posed in questions 10-12, the answer to question 13 – "Who should be charged with setting message rates for products and when are they activated?" – would be either the individual market participant or the exchange on which the product is traded. Given only this choice, we believe that exchanges should have this responsibility, since exchange presumably have some knowledge of the risk control capacity of its members. But if the Commission delegates this charge to the exchanges, that delegation leaves open the possibility that exchanges and SEFs would set rates as fast as their technology allows, regardless of market participant risk controls, in order to attract more trades. In view of this possibility, the Commission should consider how it might prevent market disruptive order to trade ratios, rather than delegate the Commission's authority to market participants to define maximum message rates and execution throttles. .

If the individual market participants or the exchanges control the message rates and the throttles, no market wide standardization will be possible, and message rate arbitrage could become the order of the day. The Commission's role in ATS and HFT practices would be limited to investigating the causes of market disruptions and sanctioning malefactors. IATP does not believe that the Commission has the resources to set order to trade ratios for different asset classes, in part because there is not a historical data base with which to do so. Yet there is an urgent need to prevent further flash crashes.

As suggested above, IATP believes an effective prevention measure would be the standardization of a graduated levy on order cancellations, perhaps along the lines of the aforementioned DCM's Weighted Volume Ratio calculations, which would incentivize algorithm design and risk management control design and operation to prevent flash crashes. The Commission would, of course, review the performance of a graduate levy system to see whether it worked as a system safeguard. If the levy system did not stem the flood of mini-flash crashes, the Commission could consider more prescriptive measures.

The CR recognizes that self-trading within a trading firm can results in a "non-bona fide price" and give an inaccurate picture of the liquidity level. The CR notes that the CME Group introduced in June 2013 a technology tool to prevent self-trading but that the use of the tool is voluntary in CME exchanges (FR 56553). In response to question 19, we do not understand why the Commission would not require exchanges to implement controls against self-trading. If the Commission is to prevent market disruption resulting from deceptive trading practices, prevention of "non-bona fide prices" and inaccurate levels of liquidity for exchange and SEF products are necessary. In response to question 22, we believe that controls to prevent self-trading should be applied to all market participants and to all contracts. To require the application of self-trade controls for some market participants but not others, and some contracts but not others creates arbitrages opportunities that would make it very difficult to enforce effectively and fairly any rule against self-trading.

The Commission's questions on maximum order seek responses about whether, how and the extent to which exchanges, clearing organizations and exchange and clearing organization members cooperate to set pre-trade maximum order screens. Without knowing specific industry practices, but in response to question 27, we assume that technology to limit maximum order size is more effective if it is applied to all contracts and customers.

Maximum order controls are tightly related to the credit risk limits of trading firms, exchanges and clearing organizations. We assume that many of the questions concerning credit risk limits derive from industry proposals received by the Technology Advisory Committee. Regarding question 34 on credit risk calculations that would be used to "limit the disruptive activity of a malfunctioning ATS," we believe that credit risk limitations should be applied to all of the firm's positions, not just to those of a particular ATS, whether malfunctioning or not. To prevent market disruption and without foreknowledge of which algorithms were malfunctioning, the Commission should make the prudent assumption that credit limit risk controls should apply to all of a firm's positions. In response to questions 36 and 37, and in the interest of preventing orders without trades, we believe that the credit limits should apply prior to the placement of the order. The clearing organization should be responsible for conducting the credit risk limit checks. We do not believe that a post-trade credit limit check can be effective against the building up of credit risk over the gamut of a firm's ATS strategies.

Post trade reports and other post-trade measures

Because HFT activity and much ATS activity in commodity derivatives is intraday, it is not captured by the daily surveillance of position limits designed to prevent excessive speculation by OTC dealer brokers and to ensure that commodity futures and options markets work for the price risk management needs of bona fide hedgers. We agree with the Commission that "Real-time information is critical to market participants managing their own and their customers' trades" (FR 56556). We further agree that "more standardized access to real-time data from exchanges and DCOs [Derivatives Clearing Organizations] could be valuable to clearing firms, and possible to trading firms, as they manage their risks" (FR, 56556). Since current ATS and HFT order and trade reporting varies from clearing organization to clearing organization, in order to prevent market disruptions to transmit from exchange to exchange, standardization of reporting criteria is required, and any DCO fees for such reporting must be uniform.

Since a critical function of post-trade reporting of ATS orders and transactions is to prevent market disruption, the response to question 43, concerning "how long after order receipt, order execution or clearing the report should be delivered from the trading platform to the clearing member or other market participant" is not one solely determined by the speed of computer technology. Rather the "how long" question must be based on how long a human intervener takes to recognize and act on the technology signals to prevent the malfunction of one ATS from cascading from one exchange to the next. The CFTC will be able to propose, on the basis of its own study of the "flash crash" of May 6, 2010[xii] and other studies of other HFT market disruptive events a response to the "how long" question.

The criteria for standardization of post-trade reporting (question 43) also should enable longer term surveillance and analysis of whether and how a firm's ATS and/or HFT strategies are providing liquidity to or taking it from the market, and whether similar algorithms operated by one or different firms result in a pattern of market disruptions. Absent a data standardization format that enables historical analysis, every ATS market disfunction will look like one more "computer glitch" to the public and to non-ATS market participants. Since a trading firm may apply ATS and HFT strategies through its foreign affiliates, any effective cross-border regulation of ATS and HFT activities will require harmonization of reporting standards, as it has for OTC derivative reporting. Although the CR states just some of the Commission's preliminary thinking about regulatory standardization of ATS and HFT activities, we are surprised that there are no questions about cross-border harmonization of ATS and HFT standards.

System Safeguards

Of the many kinds of system safeguards reviewed in the CR, the category of safeguards that we believe has the greatest potential to prevent market disruptions is the pre-market safety and soundness testing of ATS algorithms and related system components. Testing a proposed new ATS or HFT product is a computer simulated market based on historical data during a period of high market stress, as suggested in the CR (FR 56558), seems almost commonsensical. The Commission's suggestion that historical ATS and HFT data could be used to form an audit trail to discover why a proposed HFT algorithm might fail a stress test likewise seems self-evident. However, implementing such a pre-market testing plan, whether for new products or for modifications to existing products likely will be complicated even with the support of exchanges, clearing organizations and market participants.

Regarding the "necessary elements of an effective ATS testing regime" for new and modified products (question 56), the Commission should, of course, review, compare and select from current best practices for per-market testing by market participants. The historical performance of an array of algorithms on different exchanges for different asset classes under conditions of market stress will help the Commission determine these "necessary elements".

However, the Commission should consider doing its own pre-market testing of existing products, using historical data from high stress markets, to evaluate how regulatory measures it is considering might have changed the performance of those products. For example, how would a resting period of one second before an order could be cancelled, affect the price volatility and trading behavior for a given product? If the Commission lacks the resources to do its own simulated pre-market testing, it should consider how it might induce exchanges, and market participants to assist in this endeavor.

Finally, one system safeguard considered in the CR would be "a periodic self-certification program for all market participants operating ATSs and clearing firms providing services to those participants" (FR 56559). Self-certification that market participants and their clearing organizations were operating Commission stipulated and other safeguards, pre-trade risk controls and post trade measures would be an important assurance of market integrity. Regarding how often certification should occur "to meet the necessary standards" (question 61) (FR 56559), we believe that a rulemaking should provide for annual self-certification of the entire system, with partial certifications required as a trading firm introduces new ATS products to the market. To ensure that the self-certification process is working as designed in a rulemaking, the Commission should conduct both random performance audits of the safeguards and audits targeted at market participants and their clearing organizations whose activities have led to market disruptions.

As to who should attest to the self-certification (question 62), we believe that both the chief compliance officer and the chief executive of the market participant and the clearing organization should attest to self-certification. Our reasoning for this dual attestation is that first that compliance is often seen as a burdensome cost of doing business, so the compliance office often has little incentive and many disincentives not to exercise its authority, e.g. advising against the release of a new product. Second, the chief executive officer has many duties other than ensuring that the chief compliance officer is protecting the firm against regulatory sanctions. It is entirely feasible that an overwhelmed CEO might not study reports from the chief compliance officer or even sit down to review with the chief compliance officer the firms compliance performance and the compliance problems that a new ATS product or major modification to an existing product

might pose for the firm. A dual self-certification attestation requirement would provide both the CEO and the chief compliance officer with a joint motivation to engage in the self-certification process with all due diligence.

Conclusion

This CR is a milestone in the Commission's work towards regulating automated trading. IATP is grateful for this opportunity to comment on that work and looks forward to cooperating with the Commission to make automated trading practices fair and transparent to all market participants and to the public at large.

Chairman Gary Gensler noted in his concurrence, "Electronic trading makes up 91 percent of the futures market" (FR 56573. And notwithstanding the purported customization of OTC products, the Chairman remarked that the swaps market too is increasingly automated. Farmers and ranchers are among those derivatives end users attempting to manage their price risks, as Chairman Gensler noted. Because, according to Thomson Reuters tick data, HFT did not begin to take off in commodities derivatives trading until 2006,[xiii] for most commercial hedgers, automated trading is a poorly understood and therefore alien practice that nevertheless affect commodity price movements. As part of the rulemaking process, the Commission should hold joint hearings of the agriculture and energy markets advisory committees with the Technology Advisory Committee. The end users experience with automated trading will be an important contribution to the regulation of ATS and HFT. The TAC has thus far focused on the trading practices and risk controls of HFT and ATS product providers. The TAC's reporting to the Commission is a necessary but hardly sufficient information base for rulemaking.

Farmers who were lead to believe that the Wall Street inflated grain and oilseed prices of 2008-2012 would last a long time, are now watching prices collapse while costs of production have climbed to historic high in response to those inflated prices.[xiv] Before these farmers attempt to hedge price risks through commodity pool operators by betting on new ATS and HFT products, they should have a thorough understanding of the products, and the regulatory safeguards and risk controls. It is urgent that the Commission regulate dealer brokers of ATS and HFT products and work with the U.S. Department of Agriculture to educate farmers and ranchers about those rules and products.

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[i] http://www.cftc.gov/ucm/groups/public/@lrfederalregister/documents/file/2013-22185a.pdf

[ii] Vladimir Filiminov, David Bichetti, Nicolas Maystre, Didier Sornette, "Quantification of the High Level of Endogeneity and Structural Regime Shifts in Commodity Markets," March 20, 2013. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2237392

[iii] http://www.iosco.org/library/pubdocs/pdf/IOSCOPD354.pdf

[iv] Wallace Turbeville, "Cracks in the Pipeline 2: High Frequency Trading," *Demos*, February 2013, at 7. http://www.demos.org/publication/cracks-pipeline-part-two-high-frequency-trading

[v] "Statement by Finance Watch", Public Hearing: High Frequency Trading Act, Deutscher Bundestag, January 11, 2013, at 3.

[vi] Andrew M. Brooks, Testimony on "Computerized Trading: What Should the Rules of the Road Be?" before the Committee on Banking, Housing and Urban Affairs, Subcommittee on Securities, Insurance and Investment, September 20, 2012.

[vii] David Lauer, Better Markets consultant, *Op cit*.
http://bettermarkets.com/sites/default/files/Lauer%20Sen%20Testimony%20FINAL%209-20-12_0.pdf

[viii] E.g., David Bicchetti and Nicolas Maystre, "The synchronized and long-lasting change on commodity markets: evidence from high-frequency data," Munich Personal RePEc Archive, March 2012.
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[ix] "Macro-economic costs and benefits of OTC derivatives regulatory reform", Bank for International Settlements, August 2013, 2. http://www.bis.org/publ/othp20.pdf

[x] Turbeville, "Cracks in the Pipeline 2: High Frequency Trading," at 9.

[xi] "Statement by Finance Watch", *op. cit.* at 11.

[xii] "Findings Regarding the Market Events of May 6, 2010", Report of the Staffs of the SEC and the CFTC to the Joint Advisory Committee on Emerging Regulatory Issues, September 30, 2010.
http://www.sec.gov/news/studies/2010/marketevents-report.pdf

[xiii] Bicchetti and Nicolas Maystre, *op cit.,* Table 2, "Number of trades recorded in the Thomson Reuters Tick History database by instrument and by year, 1996-2011".

[xiv] E.g. Donnelle Eller, "New Farm Crisis? Iowa farmers expected to lose money over next four years", *Des Moines Register*, December 7, 2013.
http://www.desmoinesregister.com/article/20131208/BUSINESS01/312080066/1030/New-farm-crisis-Iowa-farmers-expected-lose-money-over-next-four-years?nclick_check=1