University at Buffalo
New York City Program on Finance and Law
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January 9, 2017

Mr. Christopher J. Kirkpatrick
Secretary of the Commission
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street NW
Washington, D.C. 20581

Re: Comments in Response to the Proposed Source Code Provisions of Regulation Automated Trading

Dear Mr. Kirkpatrick:

We are a project group enrolled at the University at Buffalo School of Law and the University at Buffalo School of Management consisting of two JD candidates, one MBA candidate, and one JD/MBA candidate. We have spent the Fall 2016 semester studying in the New York City Program on Finance and Law, paying specific attention to the potential effects of Regulation Automated Trading ("Regulation AT") on the futures markets.[1] We are pleased to respond to the Commodity Futures Trading Commission (the "CFTC" or the "Commission") and offer comments regarding the source code provisions of Regulation AT.

As the CFTC and its staff are aware, market participants had strong concerns that, as initially proposed, Regulation AT would have allowed regulators to inspect a registrant's Algorithmic Trading Source Code ("source code") without limitation. We applaud that the CFTC's Supplemental Notice (November 4, 2016) acknowledged market participants' concerns over source code disclosure and proposed additional limitations to the CFTC's access to source code, including requiring CFTC commissioners themselves to authorize any staff access to source code.

However, neither Regulation AT nor the Supplemental Notice adequately recognize the importance of source code as proprietary information. We agree with previous commentators

[1] On October 27, 2016, our team met with staff members of the CFTC to discuss our concerns and questions regarding the source code provisions of Regulation AT. We greatly appreciate the CFTC for hosting us and answering all of our questions.

that source code is essential to competitive advantage within the industry. The resources, time, and protection afforded to source code by market participants should be more strongly considered and appreciated by the CFTC. The promise of confidentiality and security by the CFTC does not alleviate the concerns of market participants, particularly given recent cybersecurity issues with the Government regarding classified information.

Further, we agree with other commentators that providing unfettered access to source code without judicial recourse violates Fourth Amendment rights; despite the amendment, the proposed revised rules do not provide market participants with adequate due process. Obviously, the CFTC must have appropriate access to source code; however, in order to preserve firms' rights, there should always be an opportunity to help construct restraints around that access to assure confidentiality. With a judicial or administrative subpoena, a firm can gain judicial protections regarding how source code might be provided to the CFTC.

If a firm contests production, the CFTC must seek a federal court's assistance to enforce the subpoena; this gives a person leverage to negotiate conditions to produce source code to ensure adequate protections or to request the court to order such protections. This opportunity is not necessarily available through inspection authority or special calls; there the CFTC could simply bring a separate administrative action in its own administrative tribunal to seek sanctions against a person for failing to comply with the applicable CFTC regulations requiring the production of documents pursuant to CFTC Regulation 1.31 or newly proposed Regulation 1.84.

I. Introduction

However, missing from previous comments are potential First Amendment issues triggered by the source code provisions in Regulation AT. We are concerned that neither the CFTC nor the market addressed these First Amendment issues. The First Amendment protects free speech, including source code, which is a form of speech and triggers constitutional protections. The requirements set forth by Regulation AT regarding source code infringe on developers' First Amendment rights.

We fear the proposed CFTC access proposal will hinder the development of source code for trading systems, impeding developers' First Amendment rights to express speech via source code. If such source code might have to be provided to the CFTC without adequate protections, source code designers will lessen their output, thereby curbing their speech. In response to the issues raised in the Supplemental Notice, we submit the following recommendations.

II. Source Code Is Protected by the First Amendment as Commercial Speech.

Source code represents a form of commercial speech and merits a degree of free speech protection under the First Amendment. Based on the Supreme Court's analysis regarding

commercial speech, the First Amendment can be viewed as supporting a general societal interest in the free flow of information that may allow courts to justify striking down government controls in the future. The Supreme Court focuses on three interests related to scientific speech: (1) an individual interest in the self-expression of scientific ideas, (2) a public interest in the free flow of scientific information, and (3) a societal interest in technological advancement.[2] In light of these interests, the Regulation AT source code disclosure requirement can be viewed as compelled speech, similar to financial disclosure requirements for publicly traded companies.

The Supreme Court and lower federal courts have long toiled over what is and what is not speech. Their opinions have held that computer code and other types of human technology are speech because they are composed of words; courts also emphasize that computer source code is merely a technical form of communication, much like what might be found in a scientific publication or a recipe.

In *Brown v. Entertainment Merchants Association*, the Supreme Court held that videogames are speech because they convey information in a manner analogous to works of literature.[3] More than simply analogizing videogames to works of literature, the Supreme Court took an analogical approach regarding whether a new category of technical communication is a protected speech, proclaiming "the basic principles of freedom of speech… do not vary when a new and different medium for communication appears."[4] Further, in *Sorrell v. IMS Health Inc.*, a revolutionary decision in digital speech, the Supreme Court held that transfer of any information of human knowledge constitutes speech and is therefore protected by the First Amendment.[5]

More specifically, the Second Circuit Court of Appeals addressed the "code as speech" question in *Universal City Studios v. Corley*, holding computer source code is speech because "though unintelligible to many, [it] is the preferred method of communication among computer programmers." It further stated "[c]ommunication does not lose constitutional protection as 'speech' simply because it is expressed in the language of computer code. Mathematical formulae [… is] written in 'code,' … not comprehensible to the uninitiated, and yet [is] covered by the First Amendment."[6]

Algorithmic Trading Source Code, as a specific category of source code, is best defined as "a collection of computer instructions as they are originally written (i.e., typed into a computer) in plain text (i.e., human readable alphanumeric characters) comprising executable software capable of exercising discretion over an order on the production environment of a DCM

[2] *See Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc.*, 425 U.S. 748, 761-65 (1976).
[3] *See Brown v. Entm't Merchs. Ass'n*, 131 U.S. 2728, 2733 (2011).
[4] *Id.*
[5] *Sorrell v. IMS Health Inc.*, 131 U.S. 2653, 2654 (2011).
[6] *Universal City Studios v. Corley*, 273 F.3d 429, 447-49 (2d Cir. 2001).

without human intervention."[7] Thus, source code has the capacity to direct the functioning of an automated trading system: this is the capacity to convey information. It is the conveying of information that renders source code the characteristic of speech that merits a degree of free speech protection by the First Amendment.

III. The Proposed Disclosure Requirements Regarding Source Code Constitute Content-Based "Compelled Speech," and the CFTC Fails to Meet the Burden of Strict Scrutiny Required by the Constitution.

Freedom of speech is not absolute. Courts are continually faced with balancing freedom of speech against other personal rights or interests of society. In dealing with these issues, the Supreme Court has developed several tests to interpret the First Amendment. Strict scrutiny is used when restrictions on speech are content-based, that is, the reason for regulation is based on the content of a message. The right not to speak is just as paramount as the right to speak.[8] In *Riley v. National Federation of the Blind*, the Supreme Court found that "[m]andating speech that a speaker would not otherwise make necessarily alters the content of the speech."[9]

Although the CFTC added two procedural hurdles in the Supplemental Notice "on the government agency seizing their property," before the Commission can access and review source code—a majority vote of the Commission and the special call process operated by the DMO—the hurdles cannot assuage the abrogation of the legal rights of property owners. Even with "a few additional procedural burdens," the proposal still "gives unchecked power to the CFTC to decide if, when and how property owners must turn over their source code."[10] Obviously, the CFTC has to use such an "unchecked power," because without the disclosure requirements, a market participant would not choose to disclose his source code, which is his most valuable property in his trading business. Therefore, the proposed disclosure requirements effectively act as mandatory disclosure requirements that consist of content-based restrictions on free speech.

Under *Riley*, mandated disclosures are permissible only if they (1) serve a compelling state interest, (2) are narrowly tailored, and (3) avoid undue burdens on free speech.

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[7] Futures Industry Association's Comment Letter, https://fia.org/sites/default/files/2016-06-24_regat_roundtable_group_comment.pdf.
[8] *West Virginia State Board of Education v. Barnette*, 319 U.S. 624, 625 (1943) (striking down state school requirement that all children must salute the American flag); *Wooley v. Maynard*, 430 U.S. 705 (1977).
[9] *Riley v. Nat'l Fed'n of the Blind of N.C., Inc.*, 487 U.S. 781, 795 (1988).
[10] Statement of Dissent by Commissioner J. Christopher Giancarlo Regarding Supplemental Notice of Proposed Rulemaking on Regulation Automated Trading.

1. The CFTC has not demonstrated a compelling state interest to gain access outside the process of a judicial subpoena.

First, the proposed disclosure requirements in Regulation AT do not demonstrate a compelling state interest to access source code by methods other than judicial subpoena. Certainly, the CFTC's goal to reduce risk is commendable: especially by addressing "the risk of cyberattacks and other types of technological disruptions" and "the growing incidence of algorithmic trading and to determine if algorithms are disrupting financial markets."[11]

However, the CFTC falls short when explaining why methods outside of a judicial subpoena are required to obtain source code. The public settlement orders in both *United States v. Coscia* and Navinder Sarao's suit show that most of the evidence presented by the CFTC was derived from the nature of the relevant trading of the defendants and their email--not source code. This evidence would be sufficient to receive a judicial subpoena to obtain source code, had the CFTC determined it was warranted. The CFTC has not adequately made a case why it is necessary to obtain source code without a subpoena.

2. Regulation AT is not narrowly tailored because it does not specify the range of who can use or share the disclosed source code.

Second, the CFTC has stated that it will use the special call process to obtain source code in carrying out its market oversight responsibilities. As a civil law enforcement agency, the CFTC already handles "sensitive, proprietary and trade secret information on a daily basis under strict retention and use requirements."

However, there is no limit in the proposed rule on the Division of Market Oversight staff from sharing source code with the staff of the Division of Enforcement. Further, the proposal will allow the Division of Enforcement to view source code without obtaining a subpoena, circumventing the judicial system entirely; such sharing of information "will likely become routine if this proposal is finalized."[12]

Indeed, federal, state, and local government agencies rank last in cybersecurity when compared against seventeen major private industries, including transportation, retail, and healthcare.[13] The CFTC itself has an imperfect record as a guardian of confidential proprietary information. In 2011, Senator Bernie Sanders released confidential CFTC data identifying traders with large oil and gas positions. In 2012, an exchange operator CME Group alleged that CFTC economists had published reports revealing individual customers' positions. More

[11] Statement of Chairman Timothy Massad Regarding Supplemental Notice (November 4, 2016).
[12] Statement of Dissent by Commissioner J. Christopher Giancarlo Regarding Supplemental Notice (November 4, 2016).
[13] Dustin Volz, U.S. Government Worse than All Major Industries on Cyber Security: Report, Reuters, Apr. 14, 2016, http://mobile.reuters.com/article/idUSKCN0XB27K.

recently, hackers in China breached the United States Office of Personnel Management and obtained records of more than 21,000,000 federal employees—including those at the CFTC. If this rule goes forward, the CFTC may make itself a target for a broader group of cyberattacks and despite its best efforts, source code produced to the CFTC could be lost to unauthorized persons.

As such, the proposed regulation represents a type of rule without announcing to the public how the CFTC will act in the future to safeguard concerns regarding seized source code. We agree with Commissioner J. Christopher Giancarlo that the Commission should include specific protections in the rules. For example, the rules should provide that the CFTC will only review source code at a property owner's premises or on computers not connected to the Internet. The CFTC could also state that it will return all source code to the property owner once its review is finished. The rule text provides no such assurances.

3. The burdens created by the forced disclosure of source code are unprecedented and not necessary to serve the government's compelling interests.

Third, mandatory disclosure requirements are permissible if there "is a 'relevant correlation' or 'substantial relation' between the governmental interest and the information required to be disclosed."[14] However, the CFTC itself freely admits it is unclear whether the proposed regulation will fully serve the CFTC's risk reducing objectives. Further, Regulation AT does not act as a preventative measure, only a retroactive attempt at regulation.

Regulation AT is not preventative in nature. The CFTC wants the ability to "reconstruct events after a market event by accessing a prior version of a market participant's source code." It is possible for those using the algorithmic trading system for disrupting the market to act before they disclose their source code, further frustrating the objectives of risk controlling. Consequently, the proposed regulation has only limited effectiveness, suggesting the proposed regulation places a burden on speech and source code developer freedoms that are not worth the supposed benefit to risk reducing and financial market stability. Thus, there is no "relevant correlation" between the proposed source code regulation and its objectives. Further, there is no direct proof that source code caused flash crashes in financial markets: "they have no idea what's causing them."[15]

Despite having a compelling state interest, the CFTC has failed to narrowly tailor Regulation AT, and in doing so, has put in place tremendous burdens on market participants by forcing source code disclosure. The CFTC does not meet the strict scrutiny standard required by the Constitution and is unjustly compelling speech by calling upon traders for their source code without use of the judicial system.

[14] *Buckley v. Valeo*, 424 U.S. 1, 64 (1976).
[15] Wall Street Journal, November 7, 2016, *Another Last-Minute Regulation*.

IV. Conclusion

In conclusion, we applaud the CFTC for its thoughtful approach. However, the constitutional issues raised by Regulation AT regarding the First Amendment issue should be considered carefully. Algorithmic Trading Source Code is a type of scientific speech and enjoys the protection of the First Amendment; Regulation AT forces source code users to disclose information they would prefer to keep secret. Forced disclosure may create a chilling effect and halt firms from using resources to develop proprietary source code for fear that competitors may gain access. The proposed disclosure requirements may damage free speech related to the computer software field and impinge upon core First Amendment values.

This is not merely a futures market issue, it is a threat to communication related to technological information, or "scientific speech" including data, know-how, and other types of source code. Regulation AT must go further to balance between protecting free expression and governmental interests in controlling the free flow of technology. Requiring the CFTC to go through the judicial subpoena process would alleviate First Amendment free speech concerns as well as Fourth Amendment due process concerns. Providing judicial recourse would also eliminate potential challenges in federal courts by perturbed users, lessening the burden on the federal court system and allaying market participants by affording them proper remedy.

Sincerely,

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