Crispin Yuen | Regulatory Compliance Specialist

IOSCO
Attn: Mr. Werner Bijkerk
International Organization of Securities Commissions
Senior Policy Advisor
Calle Oquendo 12
28006 Madrid
Spain

Postal Address
PO Box R821
Royal Exchange
NSW 1225
Australia

Tel: +61 41675 9910

info@securitiesfraud.co
http://securitiesfraud.co

Reference	Public Comment on Consultation Report: Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency
Date	12 August 2011

Dear Mr. Bijkerk

Thank you for the opportunity to provide you with my view on the consultation report "Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency". I fully support regulatory developments which enhance market integrity. I would like to compliment IOSCO for taking the initiative and addressing the issues of recent multi-dimensional, technology advances in an open manner.

Background

Markets have traditionally been seen as a place to finance the real economy where companies are able to raise funds necessary to expand their business and investors have the opportunity to lend their money at an eventual profit (through stock price appreciation and dividends). This has been the case for a long time. However, in recent years there has been a sea of change in how market players interact with each other due to the influence of a more advance and sophisticated technology.

These are often systems set up by people who frequently perform quantitative analysis (Quants) to analyse the markets and make a razor-thin profit by seeing a discrepancy between an asking price and a selling price. Due to their ability to price in new information extremely quickly through algorithms, they allow very efficient price-

discovery to take place. Nevertheless, as stated in the consultancy paper there are issues involved with their use.

Overall Response

I am very concerned with where algorithmic trading and high frequency trading (HFT) are transforming market trading. There are several aspects concerning algorithmic trading that are of a particular worry due to their influence on systemic risk and general market dynamics. These all became much more apparent during the Flash Crash of May 2010.

There is currently an "arms race" going on to reach the ultimate low-latency level where the ultra high frequency trading desk will be unbeatably fast. This is in and of itself a reasonable goal because it is just a modern equivalent of the "fastest runner" on the trading floors of old who was able to pass on messages quicker than other people. A problem occurs when this is coupled with co-location which allows faster offloading by HFT firms, thereby shortening the distance between the exchange and the HFT firms.

The May 6th Flash Crash was a wake-up call to the trading community, which faced the issues concerning algorithmic trading head on. We basically had Quants come into the market and set up these black-box trading systems that greatly amplified a fat finger trade causing a tsunami of a cascading effect in the space of minutes. Before any humans could get a handle on what was going on the computer programs had multiplied the effect massively and spread it out to all corners of the different trading platforms. Although the basis for the Flash Crash was not directly linked to automated-trading systems, they accentuated the effect leading to a number of implications that need to be both raised and then consequently addressed.

There were problems beyond the immediately obvious ones just mentioned. I would like to emphasize the following:

> **The HFTs amplified the price declines by making a false sense of liquidity causing the price of stocks decline more than they otherwise would have.**

They also spread the shock of the dip across multiple trading platforms causing widespread panic. The high volume of selling and buying belied the relatively small change in net positions the HFTs actually took. When the human traders saw what was happening and pulled out of the market, this then led to solely computer to computer interaction causing a further drop in the price before the plug was pulled.

The systemic risk that these HFT-strategies caused is putting the market workings and investors' trust in jeopardy. When an algorithm goes off-course and causes some shares

to be sold for as little as 1 cent or as much as 100,000 US dollars[1], we need to try and establish who is to take responsibility. If a human trader uses their power to manipulate the markets, there is clear responsibility and an established procedure to find out intent and therefore culpability. The current position regarding algorithmic trading is less clear-cut. When a rogue program upsets a market's normal functions, it has yet to be established how the blame can be apportioned to ensure that participants have a clear reason to avoid that action in future trading.

Responses to Questions

Response to the 14 questions posed in the consultation paper.

S/N	Question	Response
1.	What impact have the technological developments in the markets in recent years had on your own trading? Has it encouraged, discouraged or had no impact on your willingness to participate on the lit markets, and how does this differ between asset classes and/or instruments?	I am an independent consultant who keeps my clients informed on the latest developments concerning regulatory compliance. What I have found from my interactions is the frustrations faced by some market players which are caused by the need for adherence with regulatory obligations and increased competition from sophisticated and better equipped market players with little or no regard to accountability or the risks associated with high frequency trading.
2.	What are your views on the suggestion that proprietary trading firms (including HFT firms) that are not currently subject to registration/authorisation by a regulator should be required to obtain such a registration/authorisation? Are there specific regulatory requirements you believe such firms should face? To what extent do your answers differ if the proprietary trading firm accesses the market as the customer of an intermediary firm through DEA (i.e. under that intermediary's trading	A market-wide definition needs to be agreed upon before registration becomes a viable option. We also need to see how the registration/authorisation system works in practice. Firms that access the market through an intermediary should be required to adhere to the intermediary's rules which will be under the aegis of the market general principles of operation.

[1] Refer to "The Race to Zero" speech by Andrew G Haldane, Executive Director, Financial Stability and member of the interim Financial Policy Committee, Bank of England. http://www.bankofengland.co.uk/publications/speeches/2011/speech509.pdf

	rules/codes) rather than as a direct member of the market itself?	
3.	What recommendations, if any, would you propose to strengthen the regulatory requirements around pre- and post-trade risk controls? In particular, what measures, if any, do you think regulators should introduce that relate specifically to the use of and risks posed by algorithmic trading and/or HFT?	At a market level: 3a) HFT traders if registered could be monitored; 3b) Speeding limits (i.e. limits on either the entry/removal or cancellation of orders) could be introduced whenever HFT comprised more than 50% of the bid/ask volume within 2 price steps; 3c) Each market could have price change limits but they need to be harmonised across all trading venues; 3d) Regulators could develop a list of principles that HFT traders should follow or perhaps be able to articulate how they are meeting them.
4.	To what extent do you believe the use of trading control mechanisms such as circuit breakers and limit-up/limit-down systems by trading venues should be mandated? If you believe they should be mandated, should venue operators be permitted to design their own controls or should they be harmonised/coordinated across venues (including between interrelated instruments such as a derivative and its underlying)?	The use of circuit breakers is a necessary implementation that should be accepted across the platforms. Limit up/limit down systems are proving to be a very useful tool with the ability to safe guard against fat fingers and wild algos.
5.	To what extent do you believe market maker schemes offered by trading venues should be subject to mandatory minimum criteria? Should the criteria be determined by the trading venue alone? To what extent do you agree with the suggestion that the use of stub quotes should be prohibited?	HFTs and algorithmic trading have now redefined the position of market makers to the extent that they are now often the de facto market makers as many of the traditional market makers have pulled out of the market. This issue is symptomatic of the situation and not causal therefore I see stub-quotes are operating as intended. They are a key factor in how trading venues compete against other exchanges.
6.	Do you have suggestions for improvements to regulators'	Key information should be standardised to allow quick cross-

	surveillance capabilities with respect to the markets and modern trading techniques? Please elaborate. Who should bear the cost of investing in such capabilities and the cost of operating and supervising the markets in order to ensure fairness among market participants? Please elaborate.	venue comparisons for the regulator. Algorithmic trading should be categorised with any company applying a new technique obliged to submit key indicators to the regulator with the option of requiring further investigation. The SEC needs to better utilise its resources, increase its speed of reviewing money managers and brokerage firms and increase its staff. Funding will partly come from (Self-Regulated Organizations) SROs and partly from the government. There should be a reduction in the number of incidences of conflicts of interests.
7.	What do you perceive as the major causes of settlement indiscipline and settlement failures? What steps, if any, do you believe regulators should take to address these causes?	On public equity markets, there should be meaningful penalties imposed for failure to settle on time.
8.	Have the appropriate steps been taken to limit or manage conflicts of interest that arise where an investment firm simultaneously conducts client-serving activities and proprietary trading or a trading participant is also a shareholder in a venue on which it trades? If you believe conflicts management is inadequate, please explain how this manifests itself and any recommendation you have for how conflicts management could be improved.	No comment.
9.	Do you think existing laws and rules on market abuse and disorderly trading cover computer generated orders and are relevant in today's market environment?	The market guiding principles need to be reassessed with reference to algorithmic trading.
10.	Are there any strategies employed by HFT firms that raise particular concerns? If so, how would you recommend that regulators address	Strategies that result in a rogue algorithm appearing due to the speed of the trading are of particular concern.

	them?	Assuming HFTs are required to be registered, it would be good practice if HFT firms were required to undertake an annual process of certification with respect to their algorithms. That process should include a description explaining in simple terms the objective of the algorithm, the risks identified in its operation and controls employed to mitigate those risks.
11.	Should charges or fees be imposed on messages, cancellations or high order-to-trade ratios? If so, how should the fees or charges be determined and on what basis?	The cost of the high order-to-trade ratios is currently being met by all market participants, which imposes an unfair burden on non-algorithmic trading systems. One possible answer is to follow Canada's approach of imposing a per message fee.
12.	Should market operators be required to make their co-location services available on a fair and non-discriminatory basis?	Co-location should be open to all, but must be subject to price and demand fluctuations.
13.	Should market operators be required to provide testing environments to enable participants to stress test their algorithms? If so, what kinds of minimum requirements are reasonable?	This sounds a good idea. As to the technical requirements, it is hard to indicate specifics due to the various platform types currently adopted. The IOSCO Technical Committee could consider a separate consultation on the platforms used by exchanges in Europe, the US and Asia Pacific. However, this kind of testing would be secondary in ensuring robust controls are added to Algos (if they are considered systemically significant).
14.	To what extent do you have other comments related to the risks to market integrity and efficiency raised by the issues in this report?	Due to the rapid nature of change concern trading strategies, care needs to be taken to ensure the situation is not made worse by regulations implemented with negative consequences. Regulations should be so drafted as to be applicable notwithstanding future changes in technology.

Conclusion

I fully support IOSCO's goal to formulate some high level standards with respect to the functioning of non-human or automated trade execution and the supervision of these trading venues. I believe the principles in IOSCO's consultation paper are an important step in the right direction on the fairness, efficiency and integrity of the markets. There should be non-discriminatory trading access for all interested market participants. Market supervision of these advance technologies will ensure accountability of every participant.

In case you might have any questions or you would like to receive additional explanations following my response, please do not hesitate to contact me at +61 41 675 9910.

Thank you.

Yours sincerely

Crispin Yuen, CAMS, CISSP, CISA

About Crispin Yuen

Crispin is a regulatory compliance specialist providing independent consultation and advisory services to financial services organisations in the Asia Pacific region. He runs an integrated knowledge sharing platform for managing regulatory compliance risks and controls. In his last role, Crispin was a compliance manager in a large European investment bank performing compliance monitoring, surveillance and investigations. An ex-auditor and forensic financial crime consultant from two of the Big-4 accounting firms, Crispin has extensive experience in Sarbanes-Oxley (SOX) compliance, information security, risk and controls, anti-corruption and bribery, anti-money laundering and counter-terrorist financing. He has previously worked in global banking organisations located in Singapore and Australia. Crispin developed his specialisation in financial sanctions compliance and compliance monitoring.

Crispin provides advisory services to financial institutions on their compliance monitoring framework to raise its compliance culture across their organisations. Compliance monitoring includes the detection of market misconduct, mis-selling, insider trading, breaching of Chinese walls and employees trading outside of the compliance approval process.

Crispin focuses on helping compliance professionals in understanding and simplifying the relationships between the various regulatory obligations and their business. He is a strong supporter of utilising real-time information, advanced technology and transparent risk and control systems to ensure the longevity of their compliance framework.

Crispin is a Certified Information Systems Auditor (CISA), a Certified Information Systems Security Professional (CISSP) and a Certified Anti-Money Laundering Specialist (CAMS).