



24 September 2012

The Securities and Futures Commission  
8/F Chater House  
8 Connaught Road Central  
Hong Kong

Dear Sir or Madam:

**Re: Consultation paper on the regulation of electronic trading**

Regulatory objectives of the Securities and Futures Commission (SFC) include a duty to “maintain and promote the fairness, efficiency, competitiveness, transparency and orderliness of the securities and futures industry,”<sup>1</sup> particularly with respect to trading on a recognized exchange.<sup>2</sup> The regulation of electronic trading falls squarely within this objective not only because the manner and speed at which publicly regulated infrastructure may be used have always been considered when regulating the orderly use of such infrastructure (think of railways and highways), but much more importantly because owners must be held accountable for their instrumentalities, whether that be a dangerous animal, mechanism or substance kept on the owner’s property or a machine it operates in public. Regulation must first of all assure the public that a capable operator is supervising the instrument and is able to intervene at any time to prevent accidents. There can be no question that this applies to an automated system dispatching orders to a recognized exchange according to a pre-programmed set of instructions like an algorithm. Secondly, regulation must ensure that – just like any vehicle operated on a road or regulated seaway – the machines allowed access to recognized markets are indeed operationally safe. This would be a natural extension of section 4.5 of the Commission’s Guidelines on Competence, which already requires that a licensed corporation “exercise[e] effective control over its operations.” While it might well be more advisable to introduce reasonable limits on the extent to which trading can be delegated to an automatic function and on the speed at which such function can operate,<sup>3</sup> as well as to prohibit the sub-delegation of direct market access altogether, the SFC’s “Draft Schedule 7 to the Code of Conduct for Persons Licensed by or Registered with the SFC” provides an initial, minimal intervention in line with Hong Kong’s general philosophy of light regulatory interference in commercial affairs.

The balance of cost and benefit from the last two years during which electronic trading has reached a new plateau of pervasiveness and speed has been strongly negative. In recent years, operational failures and haywire algorithms have done more to reduce market confidence than almost any other type of problem affecting market efficiency and order. From the May 2010 “flash crash”, to errors affecting the initial public offering of Facebook Inc., to the near collapse of Knight Capital in 2012,<sup>4</sup> highly sophisticated and autonomous systems have greatly damaged investors’ faith in the securities markets.<sup>5</sup> Moreover, measures of efficiency often used to support the utility of high frequency electronic trading – the cost of a trade and the number and distribution of orders placed – have little or no connection to whether markets efficiently serve

<sup>1</sup> The Securities and Futures Ordinance, Chapter 571, section 4(a).

<sup>2</sup> The Securities and Futures Ordinance, Chapter 571, section 5(1)(b)(i).

<sup>3</sup> See “ECB’s Nowotny calls for high-frequency trade ban,” Reuters, 13 September 2012.

<sup>4</sup> Michael Mackenzie, Philip Stafford and Arash Massoudi, “Traders urge action after Knight fiasco,” *The Financial Times*, 5 August 2012 (“US regulators are coming under pressure to tighten standards for the complex computer systems that underpin trading after last week’s software glitch at Knight Capital, which hit nearly 150 stocks on the New York Stock Exchange.”).

<sup>5</sup> Tom Steinert-Threlkeld, “Yes, the Sky is Falling, Tabb Says,” *Securities Technology Monitor*, 22 August 2012 (“There’s concern that cracks in the system exposed during the 2010 Flash Crash and the recent rash of technology-specific issues are exposing the industry to unacceptable risks.”).

capital allocation.<sup>6</sup> Statistics on markets where high frequency trading (HFT) is strongly represented show falling levels of initial public offerings and confidence.<sup>7</sup>

If the airline industry experienced accidents of the type seen in the securities markets in recent years, regulators would be compelled to take action. If following such accidents travelers avoided airlines like issuers and investors are now avoiding markets, the airlines themselves would take action to promote safety simply to stay in business. Thus the SFC's proposed Schedule 7, while perhaps too light a touch, generally parallels measures recommended by IOSCO and in other jurisdictions, and is thus a welcome first step toward supporting the efficiency, transparency and orderliness of the securities markets.

The remainder of this comment will follow the questions posed in the Consultation:

### **Q1. The proposed scope of the regulation**

**(i) DMA and algorithmic trading** both present the problem of trading by a person who is not subject to regulatory constraints as a licensed corporation, registered institution or exchange participant, and thus beg regulatory attention. In the first case, the regulated entity's client receives direct market access, thus circumventing the regulatory framework designed to assure the solidity of persons participating in the market, and in the second case, the "person" trading is a machine. Given the limits of the SFC's jurisdiction and the nature of law generally, which looks to the owners of dangerous instruments rather than to the instruments themselves, the proposed coverage is the natural choice. The extension to internet trading in the leveraged foreign exchange area appears to be a natural extension of existing rules to a new medium.

**(ii) The types of products covered by these proposals** correspond both to the areas where these new technologies are mainly used and the ordinary competence of the SFC's rulemaking.

**(iii) The persons to whom the proposals apply** also appear justified, as the SFC is placing the regulatory burden on the licensed or registered entity who serves as the gateway to the market.

**Q2. An intermediary should be ultimately responsible for the orders sent to the market through its electronic trading system** both because the system belongs to and is designed to reap profits for the intermediary, and because the intermediary is in the best position to ensure that the system is well designed, operationally sound, and operated safely. If an algorithm or a computer that damages the market and leads to a penalty for the intermediary is faulty, the intermediary will be able to seek relief from the suppliers or producers in tort or contract. In the case of market manipulation or insider dealing, given the high standards that must be met in any prosecution, an intermediary would be well placed to show its reasonable ignorance of patterns behind the activities of its intermediaries, especially if it monitors and records such activity, as discussed below. The use of the intermediary as a gatekeeper in this regard is sound and justified, but should not detract from the ability to prosecute a client directly for violation of law.

**Q3. There can be no doubt that an intermediary should effectively manage and adequately supervise the design, development, deployment and operation of the electronic trading system it uses or provides to clients for use.** Recent incidents such as the 2010 "flash crash" and the 2012 meltdown of Knight Capital evidence the risks of trading systems that function in unexpected ways or malfunction. Given the rapid development of the technology employed in trading, it would be impossible to set forth requirements other than that the system be adequately managed. For this reason, it appears that the proposed requirements are sufficient.

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<sup>6</sup> See "The Kay Review of the UK Equity Markets and Long-Term Decision Making," July 2012 ("Each intermediary has its own remuneration structure and business model. The incentives that emerge from their reward systems may not correspond with the interests of savers, or the promotion of the better performance of the companies in which funds are invested.... One important misalignment arises from the bias towards action which is found at almost every point in the equity investment chain.").

<sup>7</sup> See The Kay Review, chapter 2, and Tom Steinert-Threlkeld, "Are Stocks' Days Numbered?" *Securities Technology Monitor* (11 April 2012), offering statistics on decreasing numbers of initial public offerings and listed companies over a twenty year period.

**Q4. I agree that an intermediary should ensure the integrity of the electronic trading system it uses or provides to clients for use, including the system's reliability, security and capacity, and have appropriate contingency measures in place.** As pointed out above, it is the responsibility of the owner to insure their instrument does not damage others, and the owner and operator of a system is in the best position to take precautions against and plan contingency measures in the event of malfunction or unexpected results of ordinary operation. This essentially updates the Commission's Guidelines on Competence.

**Q5. An intermediary should keep, or cause to be kept, proper records on the design, development, deployment and operation of its electronic trading system,** and will do so if it is held accountable for damage caused by the same. I have no opinion as to Q6, the proposed periods of record keeping.

**Q7. When providing internet trading or DMA services, pre-trade controls should be put in place by an intermediary** because, once the avenue has been opened to a licensed corporation's or registered institution's client, it will be very difficult to impose controls prior to any damaging event. This is a natural extension of the logic used in the existing internal control guidelines. When evaluating whether such pre-trade controls are burdensome, it may be useful to quantify what value these extensions beyond licensed market participants offer to market quality.

**Q8. When providing internet trading or DMA services, an intermediary should conduct post-trade monitoring to reasonably identify any order instructions and transactions which may be manipulative or abusive in nature.** Intermediaries may well implement such monitoring voluntarily in response to their liability for manipulative or abusive trades that they facilitate, in order to present a "reasonable investigation" defense. Given the use of sophisticated trading programs to analyze trading patterns and interact with those patterns profitably, much of trading may border on the type of activity prohibited in SFO section 278. Monitoring at the intermediary level through a duty of this type might be the least intrusive way to gather good data on this activity.

**Q9. An intermediary should establish minimum client requirements for its DMA services and assess whether each client meets the requirements before granting DMA services to a client.** DMA allows an intermediary to leverage its license by profiting for trading activity that goes beyond its own system's capacity. This licensed access should not be sold irresponsibly.

**Q10. An intermediary should not allow its client to sub-delegate the DMA services to another person unless the client is a licensed or registered person or an overseas securities or futures dealer.** As we have learned from structured finance sale of loans leading to the 2007-2008 crisis and the problems of shadow banking, the farther the regulated activity is removed from the focus of regulation, the more dangers are presented for the market as a whole. There is no good reason to allow the chain to extend beyond a single link. In fact, permitting such sub-licensing by an overseas securities or futures dealer may already go too far, given the uncertain quality of regulation in the overseas jurisdiction, the considerable obstacles for SFC oversight, and the questionable value of such sub-delegation activity for the securities markets.

**Q11. An intermediary should establish and implement effective policies and procedures to reasonably ensure that persons involved in the design and development of, or approved to use its algorithmic trading system and trading algorithms are suitably qualified.** The same logic applies to this requirement as to an airline's or railway's purchase of vehicles or engagement of mechanics.

**Q12. An intermediary should ensure that the algorithmic trading system and trading algorithms it uses or provides to clients are adequately tested to ensure that they operate as designed at all times** because such systems and algorithmic instructions can cause considerable damage to the market in a very short period of time. These systems operate at speeds beyond the capacity of human intervention before each trade, so they must be carefully scrutinized before they are unleashed on the market.

**Q13. An intermediary should have effective controls to ensure the integrity of its algorithmic trading system and trading algorithms and that they operate in the interest of the integrity of the market.** This is true for a number of reasons already discussed above. First of all, the systems operate automatically at speeds that prevent human pre-screening of trades. Second, they may operate by ordering trades in reaction to market patterns, effectively ordering stock market manipulation as defined in SFO section 278. Third, as these systems add very little to the efficient capital allocation function of the market, it is reasonable that their operators bear due responsibility for them.

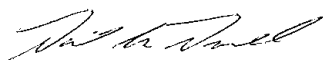
**Q14. An intermediary should keep, or cause to be kept, proper records on the design, development, deployment and operation of its algorithmic trading system and trading algorithms.** If intermediaries are held responsible for the operation of their algorithmic trading systems, they will likely keep such records as possible defense against actions pursuant to this responsibility. I have no opinion as to Q15, the proposed periods of record keeping.

**Q16. Where an electronic trading system is provided by third party service provider, an intermediary should perform appropriate due diligence to ensure that the intermediary meets the proposed requirements.** This requirement merely fills a gap that would exist if the activity regulated in the Code were farmed out to unregulated service providers. As such it is well advised.

**Q17. An intermediary may make arrangements with a service provider for the purpose of meeting the proposed requirements on record keeping.** Such arrangements would allow regulation to coexist with the protection of intellectual property. The SFC should, however, introduce some minimum requirements for such providers to ensure the availability of records. In cross-border dealings, a number of unexpected objections to the disclosure of documents can be raised, which could have a negative impact on the SFC's regulatory efforts. Moreover, the securities trades of a service provider and its affiliates should be disclosed in some way to discourage the insider dealing and market manipulation that could be orchestrated by such provider writing instructions for the systems used simultaneously in a number of market participants.

The Commission's efforts to protect the integrity of the Hong Kong stock and futures markets in the face of techniques offering few advantages for the allocation of savings and investment whilst presenting significant risks are laudable, and should be supported, even if only as a first step.

Yours sincerely,



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