London Stock Exchange Group

# LSEG Public Comment to IOSCO's Consultation Report: Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency (CR02/11, July 2011)

**12 August 2011**

**Submitted to: market-integrity@iosco.org**

## Executive Summary

1. Effective regulation of the financial services sector is necessary to ensure market efficiency and integrity. However, it is essential that all rules are based on evidence and sound principles, including ensuring that markets are able to continue in their key function of providing capital to the real economy.

2. We agree that consideration should be given to whether all market participants should be subject to more equivalent regulatory supervision (particularly HF traders). Supervisors should be in a position to ask relevant questions of applicants and supervised firms, including for explanations of the effects of trading strategies and algo operation.

3. All firms participating in public markets should have appropriate systems and controls in place to prevent the submission of erroneous or inappropriate orders and to avoid or minimise the potential for disorderly trading, supported by trading venues as necessary.

4. Trading venues have a key role to play as front line regulators in ensuring that their markets remain orderly and fair, with real-time monitoring and surveillance. Establishing systems for competent authorities to monitor across fragmented markets in real time could be complex, expensive, and would not necessarily be as effective.

5. Trading venues should have adequate systems and controls in place to ensure market integrity and efficiency. The design of circuit breakers should be at the discretion of the trading venue, and set according to the liquidity and structure of the markets they provide.

6. Trading venues should be free to design market maker requirements and incentives in a way that is compatible with the markets that they operate.

Chris Appleton
Regulatory Strategy
London Stock Exchange Group plc
10 Paternoster Square
London EC4M 7LS
+44 (0) 20 7797 4320
cappleton@londonstockexchange.com

12 August 2011

## INTRODUCTION

The London Stock Exchange Group (LSEG) welcomes the opportunity to respond to IOSCO's Consultation Report on the regulatory issues raised by the impact of technological changes on market integrity and efficiency. The issues raised by this Consultation are of importance to financial markets, given the forthcoming legislative initiatives due from the European Commission (MiFID) and elsewhere around the world.

This submission represents the views and experience of London Stock Exchange plc, Borsa Italiana, and other market operators and investment firms within the LSEG.

LSEG is well qualified to respond to a Consultation on the impact of technological change on market integrity and efficiency. It has significant experience of operating neutral, well regulated, fair and efficient markets in these areas. LSEG operates equity, fixed income and derivatives markets in the UK and Italy as well as Turquoise, a pan-European Multilateral Trading Facility (MTF) trading equities and derivatives

We confirm that we acknowledge that this Response may be published by IOSCO.

## RESPONSES TO INDIVIDUAL QUESTIONS

**Question 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?**

1. Although this question seems primarily aimed at market participants, rather than trading venues, we provide views from our perspective as a market operator.

2. The developments in financial markets witnessed in the last few years have been a consequence of an evolution in strategies, technology and regulation. In the EU, MiFID has been instrumental in bringing about fundamental shifts in equity trading, so fragmenting liquidity. This has given rise to an increase in a new type of propriety trader who has taken advantage of the resulting arbitrage opportunities that have arisen as a result of changes in market structure.

3. However, statistical arbitrage and liquidity provision, activities undertaken by automated traders, are not new. Such "technical" trading techniques have been employed by propriety firms for many years; technology and regulatory change have simply provided new opportunities to conduct this trading in different ways, more rapidly and so reducing the risk exposure of firms.

4. The view of the majority of the academic research into the activities of HFTs is that market efficiency has been improved as a result[1], through tighter spreads and increased liquidity. However, we believe that more empirical research is required into the impact of HFT and automated trading on both market efficiency and market integrity.

5. For example, some opponents of HFT have argued that the greater speed at which these participants operate gives them an unfair advantage over so called "less sophisticated" agency brokers, who are unable to compete for liquidity effectively as a result. This is not the experience of Turquoise, a Multilateral Trading Facility (MTF) operated by the LSEG. An analysis of the "hit rates"[2] for market participants has shown that in over 95 per cent of cases, agency brokers are able to successfully fill an order that they submit, compared to a hit rate of less than 80 per cent for HFT firms – suggesting that HFT has limited downside impacts on other market participants and that they tend to compete with themselves more than with other market participants.[3]

---

[1] For example: J.A. Brogaard. High Frequency Trading and its impact on Market Quality, July 2010. The findings of the paper were that HFT play an important role in price efficiency and the price discovery process, and that their activity has no impact on volatility, and tends to decrease it.

[2] The ability of market participants to capture the 'displayed liquidity' they see when originating aggressive orders.

[3] "Zero Sum Game" July 2011 - http://www.tradeturquoise.com/doclibrary/Blog_July_29th_Zero_Sum_Game.pdf

6 Automated trading and its impact on markets is a subject matter that is undergoing a significant amount of study – with initiatives such as the Foresight research and analysis project in the UK looking at the impact of technology on financial markets. We support these initiatives, and believe that they will make a valuable contribution to the debate and help ensure that regulation is sufficiently evidence and principle based.

**Question 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 rules/codes) rather than as a direct member of the market itself?**

7 In this time of increased of regulatory scrutiny and control of systemic risk, it is appropriate that consideration should be given to whether all market participants should be subject to more equivalent regulatory supervision. This includes the possibility that all HFT traders are authorised or at least that competent authorities have the ability to demand more information about their activities and supervise key aspects of their activities.

8 Indeed, in Italy, non–authorised investment firms, as market participants, are already subject to Consob inspection or information requests, under powers to supervise market integrity. In addition, Borsa Italiana has introduced additional requirements for such firms, i.e. requiring an audit function and applying fit and properness tests for the CEO and Head of Trading and all persons performing administrative, management and supervisory functions.

9 It is also important that investment firms participating on public markets have adequate systems and controls in place in order to prevent the submission of erroneous orders and to avoid disorderly trading. To this end, we support the work that ESMA is currently undertaking in drafting guidelines in this area.[4]

10 Regarding DEA, we agree with the draft guidelines from ESMA.[5] Where investment firms offer DEA to their clients, under their trading codes, they must take ultimate responsibility for their actions, and have adequate systems and controls in place to ensure that the provision of this service does adversely affect compliance with the rules of the regulated market or multilateral trading facility. This is in keeping with the approach of the SEC, and IOSCO principle 3.

[4] ESMA/2011/0, July 2011
[5] Ibid

**Question 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?**

11 Pre- and post-trade risk controls should apply to all firms in order to ensure orderly trading, and not just to those who engage in algorithmic trading and/or HFT. There is little evidence to suggest that HFT has been a cause of market disruption; indeed, in our experience as a market operator, smaller sized intermediaries are just as likely to enter erroneous orders.

12 We agree with Guidelines 3 and 4 of the draft ESMA guidelines, stating that trading venues and investment firms should have adequate policies and procedures in place to ensure fair and orderly trading.[6]

**Question 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)?**

**Circuit Breakers**

13 We support steps to ensure orderly trading and believe that circuit breakers are an effective way of doing this. However, we believe that the purpose of these controls is to ensure orderly trading, not to control or influence genuine market sentiment.

14 Markets generally operate best when trading is continuous. For this reason, we do not support the use of market-wide circuit breakers, which would effectively close entire markets and which are typically based on large movements of an index. We do, however, support and already operate intervention on an individual stock basis in the form of 'price volatility interruptions' that prevent automatic execution taking place at potentially erroneous prices that are often caused by trader error (so called "fat finger"). In our experience, these stock specific controls are adequate for preventing erroneous movements in indices such as the FTSE 100; it is the prices of individual instruments that cause indices to move, and controlling the individual stocks is more effective than halting trading in the entire index or a market.

15 Regulators should ensure that all venues have appropriate controls in place to control volatility, but we do not consider it their role to specify the precise controls that venues implement. We consider this to be a key feature of how markets are managed and therefore the responsibility of market operators to design specific controls/circuit breakers that reflect their own markets and participants.

[6] Ibid

16 At this stage, it is our view that venues should not be inter-linked for any instrument, such that if one venue triggers a circuit breaker, then all others should follow suit (other than for regulatory suspensions, e.g. per those notified by the competent Listing Authority). We consider that this risks an isolated incident, including a fat finger error in one market, causing unnecessary widespread impacts by interrupting trading on all markets. In our experience, many circuit breakers, in normal market conditions, are triggered by erroneous orders that are isolated to an individual venue and not a result of wider market conditions. To prevent trading on all venues in response to an erroneous order would be highly disruptive.

**Limit Up/Limit Down**

17 We do not consider limit up/down to be the optimum model for circuit breakers. Such a model may inhibit the efficient formation of prices by preventing market participants from entering orders at a price that they believe is representative of the value of a share. In the UK, the most liquid stocks (for example those in the FTSE 100 index) use both static and dynamic price tolerance thresholds which are more sensitive and, in our view, preferable. Provided they are assessed on an order by order basis against an appropriate reference price (e.g. last automatic trade price or the opening price) orders should be able to trade freely, with the system suspending automatic execution in the security if attempting to execute an order beyond the threshold.

**Question 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?**

18 Venues should be free to determine market maker obligations and, on a commercial basis, to specify conditions for firms to qualify for market making tariffs or other incentives, providing these terms are made public and are available to all participants on a non-discriminatory basis.

19 It is important that the obligations are designed in a way that fits with nature of the market that is being provided by the trading venue – and the trading venue is best place to determine this. For example, the London Stock Exchange requires registered Market Makers (as opposed to voluntary liquidity providers) to provide executable quotes for 90 per cent of the Continuous Trading Period, allowing a 10 per cent margin in order to manage their risk positions.[7]

20 Market makers have an important role to play in providing liquidity to the markets. However, we consider that one of the principles of fair and open markets is that the provision of capital by a firm must be voluntary and should be encouraged through economic incentives. We do not believe that any particular categories of firm should be mandated to provide liquidity.

[7] Rule 4101 of the London Stock Exchange Rules

21 In practical terms, it is unlikely that in extreme market conditions market makers would continue to provide prices, regardless of the regulatory requirements upon them. The risk of a censure or a fine from an RM, MTF or even a Competent Authority could seem less significant when set against the potential risk of significant financial loss or insolvency from meeting mandatory obligations to continue to quote prices in fast-moving and volatile markets when not in their interests. The fine is likely to be a small price to pay for stepping out of the path of the oncoming train.

22 Finally, we do not support the use of stub quotes. If market makers are able to be absent from the market for a period of time in periods of high volatility, and those markets themselves use volatility controls, then stub quotes will be not be necessary.

**Question 6 – Do you have suggestions for improvements to regulators' 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.**

23 Trading venues have a role to play, as the front line regulators, in ensuring that their markets remain fair and orderly with real-time monitoring and surveillance. We are aware that competent authorities may be considering enhancing their surveillance systems to have a real-time view of the markets. This is likely to be complex and expensive to implement and may not necessarily be effective – especially across the larger fragmented equity markets in Europe, and across EU member states.

24 A distinction should be drawn between market abuse, which is a criminal act, and market disruption or an activity having an impact on market integrity, which can be the result of erroneous orders and so called "fat finger" errors. Market Abuse is difficult to detect and respond to in real-time; it often requires extensive investigation after the event, using transaction data that can take several weeks or even months to analyse. Market disruption can be detected more easily in real-time, and dealt with rapidly by trading venues in their capacity of ensuring orderly and fair markets.

25 Therefore, although real-time capabilities are required for trading venues to ensure orderly trading, we do not see that they would be required by regulators to monitor for market abuse – certainly not for the cost that would be required to achieve such real-time surveillance in larger and fragmented equity markets such as the UK. In Europe, competent authorities already receive transaction data at the end of the day, and may request further data from investment firms and trading venues if they believe that a case of market abuse exists.

**Question 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?**

26 We are uncertain as to the premise of this question, and note that there is no discussion in the Consultation paper regarding settlement failure or discipline. Notwithstanding this, if the point of the question is whether HFT and automated trading gives rise to settlement failure or indiscipline, we do not accept such a premise. There is a popular misconception that intra-day trading, whether HFT or not, has an impact on the shareholding position in the issuers' records/registers; in many cases it does not. In our experience, intra-day traders rarely hold a large inventory of stock, and therefore their trades rarely go through to the settlement process.

27 We estimate that approximately 98.4 per cent of all trades settle within four days of the Intended Settlement Date (ISD)[8] for all securities that trade on the London Stock Exchange, and over 99 per cent of trades settle by the ISD in Italy.[9]

**Question 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.**

28 We are unaware of any problems that have arisen as a result of a conflict of interest. This does not present any particular new problem not already covered by the existing Conduct of Business rules. We would also make the general point that all firms and platforms should have adequate policies in place to manage such conflicts effectively, and that the regulatory compliance department within such firms should be sufficiently independent.

**Question 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?**

29 In general, we believe that existing laws and rules on market abuse and disorderly trading in Europe are still relevant and applicable in today's market environment. Computer generated trading has not, in our view, given rise to any new types of abuse, namely the means by which it may be undertaken or the speed. However, it may be useful to have more illustrative guidance and examples of what may constitute market abuse and disorderly behaviour in markets.

[8] Source: CREST
[9] Source: Monte Titoli

30 The London Stock Exchange Group operates systems and controls across its markets designed to identify activity that may either be potentially abusive and/or lead to disorderly markets. These include real-time market surveillance as well as ex-post analysis of order and execution data. We liaise closely with the relevant authorities in the UK and Italy (and elsewhere as necessary) to assist in any further investigations and/or prosecutions of offences.

31 Finally, our trading systems are configured in such a way as to allow message flow management; with controls in place to ensure that no one participant can flood the matching engines in a way that would prevent them from operating properly and effectively.

**Question 10 – Are there any strategies employed by HFT firms that raise particular concerns? If so, how would you recommend that regulators address them?**

32 Incidences of market abuse and distortive behaviour are not a specific HFT issue, but a wider market integrity issue for which the current Market Abuse laws and controls are generally sufficient (please see our response to question 9).

**Question 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?**

33 Any measure that increases transaction costs will reduce liquidity in markets, increasing the cost of capital for companies, and may also exacerbate volatility (depending on the design of the market). It is therefore our view that the use of such charges should be a commercial decision on the part of the trading venue.

34 We suggest that imposing an order-to-trade ratio, either by way of trading system arrangements or by way of pricing caps, will reduce the depth of liquidity in markets or create pricing inefficiencies between related instruments, and thus increase the cost for orders seeking to remove displayed liquidity.

- Automated trading strategies (for both agency execution and market making) that currently post bids and offers at multiple price points (providing depth of liquidity to the market) typically adjust all open orders in response to executions or market data events. A capped order-to-trade ratio will drive firms to post liquidity at fewer price points or in fewer venues, reducing overall liquidity;

- A high order-to-trade ratio is required to ensure efficient price formation in many instruments. For example, prices in basket-based instruments (e.g. ETFs, index futures, index options) must typically be adjusted to reflect changes to any of the underlying constituents, and hence typically have higher order-to-trade ratios than ordinary stocks. Similarly, stocks that are

traded in more than one venue, or which have active stock options or stock futures, also typically have higher order-to-trade ratios.

35 IOSCO will be aware of the work done by the Canadian authorities regarding a regulatory fee structure that imposes a cost in proportion to a market participant's order activity, rather than executed trades; it would be interesting to see whether this had any measurable impact on trading strategies.

**Question 12 – Should market operators be required to make their co-location services available on a fair and non-discriminatory basis?**

36 We agree that access to co-location facilities should be provided on a non-discriminatory basis. The same market access offering and related incentives should be offered to all participants. This should not mean that co-location space has to be limitless – provided it is open to all market participants then it should be a commercial service based on supply and demand and should be able to be priced accordingly.

37 In assessing co-location from the point of view of fair market access, we would also highlight that the information provided on the costs and speeds of co-location must be correct, clear and not misleading, so that market participants are unambiguously and transparently informed about costs and technical specifications.

**Question 13 – Should market operators be required to provide testing environments to enable participants in stress test their algorithms? If so, what kind of minimum requirements are reasonable?**

38 We do not believe that market operators should be required to provide testing environments for stress testing algorithms. To do so would be incredibly difficult to achieve in practice and expensive to implement, as it would require simulating a trading environment with parameters that may change in response to different externalities (and are therefore difficult to model).

39 However, the London Stock Exchange Group does provide range of customer testing services that allow our members to test their systems, and ensure that they are fully operational and effective.[10] It is our belief that all trading venues must offer this service as part of its arrangements for effective systems and controls.

40 LSEG also stress tests its systems to ensure that their capacity can meet demand and handle potentially high message volumes during times of high market volatility. Further, as discussed in question 4, volatility controls and circuit breakers are deployed to ensure that trading in particular financial instruments remains orderly. We consider that this is a more effective way of maintaining orderly markets.

[10] For more information, please visit http://www.londonstockexchange.com/products-and-services/technical-library/customer/customer-testing-services.htm

**Question 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?**

41 We have no further views to add at this time