Deutsche Börse Group

Deutsche Börse Group's Response

to

Consultation Report of the Technical Committee of the IOSCO:

'Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency'

Frankfurt / Main, August 2011

Introductory Remarks

Deutsche Börse Group (DBG) welcomes the opportunity to comment on the consultation report on 'Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency' published by IOSCO.

Electronic trading is long established in the financial service industry. Technological changes have brought many positive effects to all market participants (e.g. electronic order management systems or execution algos for the buy-side). Orders are increasingly being generated by computers. High frequency trading (HFT) is a natural evolution of the financial markets, and not a new phenomenon. The majority of HFT based strategies contributes to market liquidity or to price discovery and market efficiency. Preventing these strategies by inadequate regulation or by impairing underlying business models through excessive burdens may trigger counterproductive and unforeseen effects to market quality. However, we believe that in general, any abusive strategies against market integrity must be effectively opposed by supervisory authorities.

The discussion on HFT is often mixed with the US Flash Crash. The Flash Crash has nothing to do with HFT and was related to the specifics of the interlinked US market structures. We want to emphasize that there are effective mechanisms in place to prevent such market disruption in Germany and Europe.

In the public debate, HFT is often associated with increasing volatility and is viewed critically by politicians. It is important to point out the positive contributions HFT makes to market quality, while taking the concerns in terms of the safety and integrity of markets very seriously as well. Unsubstantiated regulation of HFT could adversely affect the liquidity of trading venues and their innovation. Moreover, it could impair trading venues by pushing trading further towards less regulated platforms.

We elaborate on principles raised in the consultation report in more detail below.

Detailed Remarks on Questions

Q1 *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?*

From the perspective of a market operator, technological developments have altered the trading landscape intensely in the last years. As HFTs have a significant share in European order book turnover (according to Tabb Group it accounts for 40 percent in 2010) the market relevance of HFTs are obvious. This does not only require supervision but also transparency in order to ensure trust in securities markets. Trading venues must have the

technological capabilities to ensure handling of peak volumes and safeguards against technical failures in members' algorithms.
The majority of HFT based strategies contributes to market liquidity, price discovery and market efficiency. This is true in particular for transparent and regulated markets: During the Lehman crisis, HFT have actively provided liquidity to the public and transparent order book markets, whereas bond trading – characterized by its bilateral and opaque nature – collapsed. Preventing these strategies by inadequate regulation or by impairing business models through excessive burdens may trigger counterproductive and unforeseen effects to market quality.
In contrast, markets with a low pre- and post- trade transparency do not contribute to price discovery and market efficiency, especially when liquidity is fragmented.

Q2 *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?

Exchanges and clearing houses already have strict admission criteria for trading and clearing members that ensure safe and sound conduct of business and orderly trading / clearing. We consider these requirements as very important independent of the registration / authorisation status of the trading firms.
We believe it should be on high frequency traders to respond to the question of authorisation.

However, with regards to DEA, we proclaim that no naked access should be allowed. A member who facilitates access is responsible for risk controls. The market operator can provide the member with various tools to support his efforts, but responsibility lies with the member.

Q3 *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?*

Risk management at the source of the order flow is necessary to prevent algorithmic trading in general to harm financial markets. Thus, we recommend that HFTs should have sophisticated risk management tools and safeguards in place. It is essential to ensure that their algorithms are at all times under full control. Parties responsible for operating algos

must be accessible at all times. They should be able to deliver supervisory authorities with necessary data for investigation and back testing options[1].

However, effective risk management should not only be in place at the HFT level, but also at the trading venue level. DBG appreciates the idea that trading venues should have controls and procedures in place to mitigate the risks that are related to automated trading. We believe that operating a market implies the obligation to have systems and procedures in place to ensure orderly trading. In the following the controls for the Xetra system and the Eurex system are described in more detail.

Eurex and Xetra have been constantly working on making sophisticated risk management tools available at both, the trading and clearing layer:

- A technical throttle that limits the number of technical transactions that a single connection to the Eurex / Xetra system can send - to prevent "quote stuffing".
- Dedicated maximum order quantities - to prevent "fat finger" errors.
- Volatility interrupt functionality - to ensure "sensible" trade prices.
- Real-time position data provision and supplying risk data in real-time such as margin requirements - to serve as solid basis for members own risk management (Eurex only).
- A stop button to allow members to inform the Exchange Management immediately to stop a trader and clearers to stop a non-clearing member - to allow members to react fast in case of a technical or operational problem (Eurex only).
- Advanced risk protection functionality enables trading and/or clearing members to set up to three limits on aggregate risk metrics, such as the total margin requirement. Upon breach of the first limit, an alert message is sent. At the second limit, the system automatically throttles orders and quotes and at the third limit, the "stop button" functionality is automatically triggered, thus halting all trading activities (Xetra offers the same functionality in the largest part).

Q4 *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)?*

DBG believes that trading control mechanism should be mandated for trading venues. We believe that the trading venues should be permitted to design their own controls. Moreover, it is not advisable to interlink trading interruptions across venues. A trading interruption only sources local (order book) information. If a market observes an insufficient low level of liquidity in its order book, it cannot be certain whether it is due to a global cause or whether

[1] This would include the recording of all input and output parameters to be able to reconstruct the behaviour of the systems.

it is due to a local short coming of its own market. While the former reason might justify an interlinkage of trading interruptions across markets, the latter certainly does not. Since an automatically triggered mechanism cannot differentiate, an interlinkage is not advisable.

The volatility interruptions of DBG fulfil all requirements set up by the trading interruption. However, also a limit up/ limit down rule would fulfil the requirements. Trading interruptions shall not be harmonized, nor should trading venues be required to follow trading interruptions of home markets. But, every trading venue shall be required to define a mechanism that fulfils the minimum requirements of a trading interruption.

A trading suspension may not be enforced quickly enough to prevent a flash crash from happening. Therefore, each market needs to have some form of trading interruption to slow down price discovery. Slowing down the price discovery has two benefits. Firstly, it provides traders the opportunity to review their order submissions. Secondly, it provides home markets the opportunity to analyse global information sources to determine the necessity of a trading suspension. Currently, there are numerous ways how to structure a trading interruption. Even though most markets in Europe switch to call auctions once certain price bands are violated, there are still differences in all their mechanisms. It is very important to keep that heterogeneity in mechanism across Europe for the following reasons:

- Competition is the major driver of innovation. By regulating the design of trading interruption, no competition will take place in that field.
- Furthermore, monoculture trading interruptions is a huge source of risk, compared to diverse trading interruptions. In a world with diverse trading interruptions, incorrect designs will impact only a small fraction of the market.
- Finally, if DBG calls for a harmonized approach in trading interruptions across Europe, DBG runs a high risk in being forced to adjust to lower standards of competitors. For example, DBG considers for triggering a volatility interruption a static and a dynamic threshold. Only combining both types of thresholds provides an effective safeguard against Flash Crash like events. So far, no other European cash market has a similar concept. However, for DBG it would be very important to keep the existing solution.

In addition, the regulator could consider what types of products would be systemic relevant and whether these would require specific rules. However, such rules would demand careful considerations regarding operational practicality and unintended consequences.

Q5 *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?*

Market maker schemes provide a differentiating factor for trading venues, and are usually carefully calibrated to reflect the nature of the market. DBG does not support the introduction of mandatory minimum criteria.

Stub quotes should not be allowed. They do not support liquidity provision at all. The executions during the flash crash were a direct result of stub quotes. DBG has implemented technical restrictions that do not allow market makers to quote far away from the current price. However, stub quotes are rather a symptom than the root of the problem. Ruling on that should not be extended to disallow customers from placing limit orders far away from the current best bid-offer, as many of those have a more long term focus.

Q6 *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.

A concept of better co-operation would provide enhanced stability to the markets and increase the potential that abuses would be identified and appropriate action taken. As an example of co-operation the majority of regulated markets in Europe already have in place a formal methodology to enable to communicate with the relevant experts on trading on disruptions or halts. Moreover, a greater coordination of national regulators could be required. In the case of cross-borders market abuse, the European Securities and Markets Authority (ESMA) should be given greater monitoring and enforcement powers.

Regulators' surveillance capabilities should be funded via contributions.

Q7 *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?*

DBG sees no relation between settlement indiscipline / failures and technological changes or high frequency trading. DBG is supportive to market led initiatives, especially in the area of settlement periods and settlement discipline regimes, to further increase settlement efficiency (cp. DBGs' participation in the work of the "Harmonization of Settlement Cycles Working Group" which completed its work with the report to the European Commission on March 1st, 2011). Any measures in this field should be venue neutral (i.e. include OTC transactions) to ensure a level playing field.

Q8 *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.*

As long as there is a clear separation between client-serving activity and proprietary trading there is no issue. However, any time an investment firm is trading against a client order, in order to facilitate its client's trading interest, there is a natural conflict interest which needs to be managed very carefully.
In terms of trading participants also being shareholders of a trading venue, as long as it is an open, transparent and multi-lateral trading venue and the ownership stake is within reasonable limits e.g. <20%, the conflict potential is relatively small.

Q9 *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?*

Q10 *Are there any strategies employed by HFT firms that raise particular concerns? If so, how would you recommend that regulators address them?*

HFT is a technical means to implement established trading strategies. HFT is not a trading strategy as such but applies the latest technological advances in market access, market data access and order routing to maximize the returns of established trading strategies.

Therefore, the assessment and the regulatory discussion should focus on market abusive behaviour in general, rather than on HFT as such only.

At this instance, we would like to draw the attention to an order book pattern 'flipping' that at least distorts orderly trading or may a signal for market manipulation. Flipping constitutes entering a passive order at the best bid or best ask. Usually orders are not small in size and can be seen in liquid products. If an order is traded the potential perpetuator flips the market side. Especially big participants can control to a certain extent the inside market.

Concerning the pattern 'layering' we would like to note, that this behaviour is in general not conducted by machines, but by pure manual trading or partially "electronically assisted" manual trading. Implemented algorithms are easily ignited by a layered order book as such delinquents enter non-bona fide orders to mislead the market and in particular a specific implementation of an algorithmic trading strategy. The delinquents do take in general advantage of in-appropriate programmed algorithm.

Q11 *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?*

DBG does not recommend imposing fees on messages or cancellations. It should be at the full discretion of a market operator to charge those fees or not.

As a matter of fact, even today every trader faces costs for the amount of messages sent. As for example, technical limitations restrict the number of messages sent per exchange connection and per time unit. If a trader wants to send more messages than one line is capable of, a trader must order a second connection, which increases the costs of trading. Those costs can vary significantly across market models, market operators and/ or asset classes. Charging those specific fees is a crucial area of competition for market operators. Specific pricing models provide incentives for specific trader types that are beneficial to the market model or asset class. Recent market development with increasing competition, based on successfully implemented price transparency, is demonstrating that there is no market inefficiency caused by fee structures.

Thus, regulations would only be capable of introducing a minimum costs component to the market. If the market operator deems necessary, they might already today charge a higher cancellation fee or charges for high order-to-trade ratios. If the market operator deems a very low fee is necessary, it would be restricted by regulation to provide cheaper services to the overall market.

Finally, we would like to point out that high number of messages or high order-to-trade ratios are not necessarily negative. Market participants need to react immediately to exogenous events. A high order-to trade ratio (and / or imposed fees for such a ratio) would prevent them from managing risk from standing orders and ultimately lead to a decrease in liquidity. If market participants are allowed to have higher order-to-trade ratios they could provide more benefits to the market. In fact, comparing a primary liquidity adding HFT strategy with a primary liquidity removing HFT strategy, the liquidity adding strategy has in general far higher order-to-trade ratios.

To summarize, it should be at the discretion of a market operator to charge per message or on the level of order-to-trade ratio. Some market operators may do so already, indirectly in their pricing schemes. Restricting market operators in their freedom to compete by a minimum level of fees is not beneficial to the market. Market operators have a strong incentive to manage system load adequately (see Q13). Thus, there is no need to intervene with regulation.

Q12 *Should market operators be required to make their co-location services available on a fair and non-discriminatory basis?*

DBG agrees that all market operators / trading venues should be required to provide their co-location services on a fair and non-discriminatory basis to their market participants.

Q13 *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?*

All DBG trading systems are designed to cope with the highest technical standards and have to pass strong quality tests. Furthermore, there are simulation environments available to market participants, where means for orderly trading can be tested. Therefore, it is not necessary to regulate stress testing of trading venues as the competitive pressure ensures that trading venues conduct the necessary investments into infrastructure. Accordingly, DBG has already implemented processes to ensure the performance and reliability of our trading system remains at high level even under exceptional peaks of system load.

Q14 *To what extent do you have other comments related to the risks to market integrity and efficiency raised by the issues in this report?*

Respective to comments in the IOSCO report on page 26 (reduction of average trade size): There is no evidence that the reduction of average trade sizes reduces the ability to execute large orders on lit markets. Empirical studies[2] show that a significant share of the transactions executed outside the lit markets could have been executed on open, public order books facing no market impact. These would then additionally contribute to the public price discovery process. The majority of HFT based strategies contributes to market liquidity or to price discovery and market efficiency. Empirical studies[3] show that even the fragmentation of equities trading in Europe due to the introduction of the MiFID in 2007 has not led to a reduction of liquidity.

Finally, we want to emphasize again that the discussion on HFT is often mixed with the US Flash Crash. The Flash Crash has nothing to do with HFT and was related to the specifics of the interlinked US market structures. There are effective mechanisms to prevent such market disruption in place in Germany and Europe.

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[2] e.g. Gomber and Pierron 2010, "MiFID - Spirit and Reality of a European Financial Markets Directive", http://www.wiiw.de/publikationen/MiFIDSpiritandRealityofaEurop3995.pdf.

[3] e.g. Gomber, Gsell and Lutat 2010, "Competition among electronic markets and market quality", http://www.hof.uni-frankfurt.de/index.php?option=com_docman&task=doc_download&gid=114&Itemid=299.