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Launched in 1960, the European Banking Federation is the voice of the European banking sector from the European Union and European Free Trade Association countries. The EBF represents the interests of almost 5000 banks, large and small, wholesale and retail, local and cross-border financial institutions. Together, these banks account for over 80% of the total assets and deposits and some 80% of all bank loans in the EU only.

Response to IOSCO's Consultation Report on regulatory issues raised by the impact of technological changes on market Integrity and efficiency

Key Points

1. **The emergence of High Frequency Trading (HFT) is a logic evolution in trading dynamics characterised by increased levels of competition and technological advancements permitting ever shorter order execution times. Whilst no conclusive evidence has currently been provided that demonstrates that HFT is detrimental to the market HFT does, however, give rise to challenges that need to be addressed.**

2. **Proprietary trading firms including HFT firms that are not currently subject to registration/authorisation by a regulator and that have access to exchange matching engines should be brought under a specific authorisation and supervisory regime. As a result, such firms will have to maintain and operate effective organisational and administrative arrangements to prevent conflicts of interest and be subject to strict regulation on operational risks.**

3. **Trading venues should consider well-designed safeguards such as circuit breakers or limit up/limit down processes to make trading more resilient.**

4. **Activities conducted through HFT that may lead to market abuse should not be tolerated. Supervisors' technological and human resources capabilities for market abuse detection and prevention need to be strongly enhanced.**

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EBF's interest and approach

Banks are interested in financial markets for three main reasons:

- Banks use markets to assist their clients in raising financial capital, transact foreign currency exchange and manage their financial risk. Banks are often required to 'make a market" to facilitate the services they provide: trading stocks, bonds, and loans in capital raising; trading currencies to help with international business transactions; and trading interest rates, commodities, and their derivatives to help companies manage risks.

- Banks also serve investors who trade financial instruments. Banks arrange transactions between a buyer and a seller, and get a commission when the deal is executed. Such transactions are often executed in the markets.

- Banks also trade financial instruments, with the banks' own money as opposed to its customers' money, so as to make a profit for themselves. This is defined as proprietary trading. Proprietary trading is generally associated with large banks.

European banks participate in financial markets for all the above reasons. European banks have, therefore, a strong interest in financial markets remaining integral and efficient.

General remarks

The **EBF supports the G20 objective that IOSCO arrives at "recommendations to promote market's integrity and efficiency**". The EBF supports the importance of global regulatory structures keeping pace with technological advances as well as with changes in market microstructure and recognises IOSCO's fundamental role in that regard. The EBF considers, however, that the **latest technological development in trading technology should not be characterized as "risk posers**", per se. Instead, the EBF considers that such new developments offer new possibilities to individual market participants and advantages (more liquidity, narrow spreads) to the wider market, but also could give rise to certain challenges that need to be addressed.

From a regulatory perspective, the EBF considers that attention on developments in trading technology in general and on HFT in particular should be focused on (i) how it impacts liquidity and/or price formation in the market; (ii) whether it affects the market's broader integrity and stability, including during periods of high market volatility; and (iii) whether it may unfairly disadvantage some market participants. In this regard, the **EBF is broadly supportive of IOSCO's analysis and conclusions as it describes the impact of HFT on the efficiency, fairness, integrity, stability and resilience of markets**.

Since HFT primarily is an exchange traded equities phenomenon our comments below relate to that market unless otherwise stated.

The EBF would like to **underline the following assertions in the IOSCO Consultative Report** (extracted from pages 27-30):

- Limited empirical evidence available so far has not clearly identified negative effects of HFT on the efficiency of the price discovery process.

- HFT firms did not trigger the May 6 crash in the US although they may have intensified the liquidity crisis by introducing increased transitory volatility (owing, for example, to errors in algorithm programming). A clear understanding of the degree by which HFT firms may exacerbate the transmission of shocks across markets is still lacking.

- HFT firms' technological advantage - which leads to superior trading capabilities – might decline in the future as technology often becomes commoditised.

- Some HFT firms employ very sophisticated systems that allow them to profitably trade ahead of hidden liquidity from large traders that seek to (legitimately) conceal their trading intentions via sophisticated algorithms and order-slicing managements systems.

- HFT and market manipulation should be kept as two distinct concepts and should not be automatically equated. Some examples of existing trading practices (e.g. momentum ignition, quote stuffing, spoofing and layering) may benefit from the edge of HFT-style technology.

- HFT's technology requirements pose capacity challenges at both connectivity and trading engine level. It is important to evaluate that trading venues and intermediaries have systems and control appropriate to a high frequency environment.

The above selection on the challenges posed by HFT to market integrity and efficiency leads the EBF to the following **preliminary concluding ideas**:

1. As a result of technological advancements and regulatory changes, we have seen the emergence of High Frequency Trading as one among other developments in the trading space. As part of the 'Markets in Financial Instruments Directive' (MiFID) the 'concentration rule' was removed, which increased the level of competition between European trading venues, and the emergence of Multilateral Trading Facilities (MTFs). The increased levels of competition, combined with significant technological advancements reducing the time it takes to execute an order, have attracted liquidity providers, including high frequency traders. MiFID was very successful in bringing (more) competition to stock trading thereby fragmenting the market. HFT proved to be very effective in mitigating the negative effects of this fragmentation by minimising price differences of different venues.

2. No conclusive evidence has currently been provided that demonstrates that HFT is detrimental to the market; rather, there is recognition that HFT can benefit the market by increasing trading volumes and reducing the bid-ask spread. Possible market abusive behaviour in connection to the use of HFT is, nonetheless, an area of concern.

3. Whilst an increase in trading volume, and a reduction in the bid ask spread are conditions normally associated with increased liquidity, we believe further research is required to

understand better the impact of HFT on liquidity - taken against the broader definition of liquidity as set out by IOSCO on page 25 of the consultative report: "*liquidity is "the ability to trade large quickly, at a low cost, when you want*". Any research should take account of the fact that the effects of HFT may be different across the broad spectrum of financial markets and / or instruments.

4. Furthermore, a fundamental, broad analysis of the costs and benefits around HFT for investors is yet missing. While evidence seems to point that spreads have indeed decreased, this benefit may be partially offset by other costs related to the increased messaging and reporting that has come with the extensive use of algorithms.

5. Any rules to regulate the provision of HFT should, therefore, be flexible and dynamic, to quickly adapt to changing market conditions and designed with the overriding objective of protecting the investor, preventing market abuse and ensuring the stability and integrity of financial markets, whilst avoiding hindering technological progress or unduly restricting competition.

Finally, the EBF, as a constituent member, supports the recent submission by the International Banking Federation on High Frequency Trading[1].

Response to 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?

The implementation by exchanges of computerised communications permitting electronic dissemination of financial information - notably prices - coupled with the creation and growth of all-electronic alternative trading systems, has allowed the European banking community to use automated computer programs to execute orders in a way that has led to increasing competition (i.e. lower trading costs) and execution quality (i.e. narrower spreads). However, we feel further research into the effects of HFT on liquidity should be undertaken, against the broader definition of 'liquidity' as set out by IOSCO on page 25 of the consultative report. One area where analysis is particularly pertinent refers to the impact of HFT on the ability of an institution to trade orders of large size in the lit markets.

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?

[1] For more information, see http://www.ibfed.org/news/high-frequency-trading-02-08-11

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?

The lack of a single agreed definition of HFT makes it difficult to properly identify who is a HFT firm. Furthermore, as IOSCO itself recognises, algorithmic trading has become a "standard feature" in many buy-side firms and HFT firms' superior trading capabilities might decline in the future as technology becomes commoditised. Therefore, HFT technology is likely to be the "new normal" in the short to medium term.

That said, as HFT is mostly employed by proprietary trading firms, IOSCO is right in putting the focus under this latter sort of firm. Connected to this, the EBF considers that **proprietary trading firms that have access to exchange matching engines should be brought under a specific authorisation and supervisory regime**. Such an authorisation would be conditional on the fulfilment of some organisational requisites and upon the introduction of risk management obligations and proportionate capital requirements that should be agreed and implemented on a globally coordinated basis. A system-wide approach is needed with measures that take account of the interrelated nature of the capital markets.

Proprietary trading firms accessing markets via "sponsored access" should not have to be registered. The EBF considers that firms who provide "sponsored access" to automated traders should have in place robust risk controls and filters to detect errors or attempts to misuse their facilities. In order to prevent possible abuses related to sponsored access, one alternative that would, nonetheless, merit detailed analysis would the establishment of further risk controls which may limit the percentage of the volumes traded by the sponsoring firm.

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?

The EBF does not see a need to further regulate in this area as the current risk controls are appropriate. In this regard, the EBF would like to remind that **credit institutions and investment firms, as regulated entities, are subject to a very strict regulation on operational risks**. And this regulation obviously applies to HFT activities.

Monitoring tools put in place by firms to meet obligations on operational risk prevention are subject to permanent and periodic controls (e.g. internal audits and external audits by prudential authorities).

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)?

Whilst, broadly speaking, trading should be smooth and uninterrupted, well-designed safeguards should be considered to make equity trading more resilient. The **EBF supports the introduction of circuit breakers or limit up/limit down processes** to deal with extreme situations that pause trading for stocks when they move an established percentage over a given limited timeframe.

To be efficient, mandating a generic minimum global standard for all trading venues could be an appropriate way forward. Such standard should be no lower than current market standards in Europe. The exact implementation of the standard and any other possible additional measures should be left to the discretion of trading venues and to market dynamics and innovation.

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?

The **EBF does not see a need to harmonise market maker schemes offered by trading venues**. These schemes should remain a competitive tool used by venues to maximise the amount of liquidity in their platforms.

The EBF considers, however, that an **adequate regulatory treatment of stub quotes** may play a part in reinforcing the resilience of equity trading.

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.

The EBF does not have any exhaustive suggestions in this regard, beyond the need for supervisors to continue improving their **technological and human resources capabilities** and to enhancing their global coordination.

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?

The EBF is **unaware of any issues around settlement** in the context of HFT.

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.

The EBF considers that, **in the context of the European Union, the framework legislation (MiFID) is clear and appropriate** to cover the highlighted cases. In the EU, firms must maintain and operate effective organisational and administrative arrangements with a view to

taking all reasonable steps to prevent conflicts of interest for adversely affecting the interest of their clients.

However, the EBF considers that further research is required to assess the impact of the practice of (sub-penny) arbitrage, whereby HFTs buy and sell stock purely to collect rebates that may be considered market abusive.

Further, venue fees and incentives paid to liquidity providers, which include HFTs, should be disclosed to the market as part of a transparent process.

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?

The EBF considers that, broadly speaking, **market abuse regulation in the EU is flexible enough to cover any illegitimate activities conducted through HFT**.

The challenge is identifying abuses using existing supervisors' technological and human resources capabilities. Subject to the appropriate confidentiality safeguards, regulators must be able to have access to proprietary information when they believe market abuse practices may have taken place.

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

The EBF does not see speed (of HFT) per se as abuse. Market abuse needs a strategy and HFT is defined as a way to make use of technology to facilitate different strategies. Furthermore, the approach of categorising particular trading strategies as posing concerns is fraught with difficulties in scope and definition.

Having said that, the EBF understands that **certain market participants pursuing directional strategies are using HFT with a view to being able to influence the curve of the market**. If it appears that such strategies (or indeed others such as message latency arbitrage and "denial of service" type attacks such as "quote stuffing") are not legitimate, involve market abuse, or pose a risk to the system, regulatory and/or supervisory corrective action should be taken after thorough study of the facts and the likely impact of proposed actions.

It should be noted that existing trading strategies, whether using HFT or otherwise, will evolve in ways that may outpace regulatory efforts to categorise them, and entirely new trading strategies will develop at a rapid pace. In view of the continuing rapid pace of development, the authorities should consider making clear that certain behavior is abusive whether carried out by a person or a machine under a person's control.

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?

The EBF considers that **the charges or fees policy on messages / orders remains the exclusive competence of each trading venue.** As part of their commercial policy, some of them already implement a penalty for orders above a given order/trade ratio. The EBF expects such self-imposed measures to contribute to market resilience and stability but would refrain at this point from recommending any regulatory intervention in this regard.

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

The EBF acknowledges that the successful implementation of a form of automated trading that implies speed relies not only on IT investment and adequate algorithm design but also on access to co-location (i.e. installation of trading engines directly adjacent to the markets' own infrastructure) or access to exchange trade data feeds. The EBF calls regulators to ensure that **access to co-location and/or trade data feeds is open to all interested traders on a non-discriminatory, transparent basis.**

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?

The **EBF does not see a need to regulate an obligation for market operators to provide testing environments for HFT firms to test their algorithms**. Such facility should remain a commercial proposition. The EBF considers, however, that market operators should have in place risk controls and arrangements to mitigate the risk of errors generated by automated trading or the breakdown of their trading systems.

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?

The EBF considers that more work is necessary to mitigate the potential **impact that HFT firms may pose to market stability with regard to venues' bandwidth consumption and/or their systems capacity**. Ensuring optimal execution system is, however, the responsibility of trading venues, being in the latter's interest to establish trading rules and systems that contribute to efficient and robust markets.