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Reference is made to the above mentioned Consultation Report. Please find our answers below the IOSCO 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?

ABN AMRO Clearing ("AAC") acts as a provider of Direct Market Access and Clearing services to third parties only. As such, AAC does not make direct decisions on trading venue, trading volumes or trading style.

However from the activities that we have seen from our clients it is clearly apparent that markets generally are more transparent, and open to investors to participate in them. AAC strongly believes that it is as the result of the growth of electronic trading and the ending of privileged and restricted access to valuable market information, financial markets have never been as open to participants as they are today.

The developments in electronic trading have removed the information asymmetry that was previously held by floor traders, market makers and specialists. Membership of exchanges much more accessible, and allows more flexible methods of access and trading to individual investors and end-users.

AAC notes that having recently seen the opening of equity, equity derivatives and energy markets providing great benefits to consumers, there are still some restrictions in some markets e.g. the London Metal Exchange, certain power markets in Europe, to which there is not an open access framework in place, and these restrictions will continue to affect negatively the ordinary users of these 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?

AAC believes that the existing position taken under MIFID that trading firms are exempt from regulation unless the firm services clients or undertakes market-making activities should be maintained. The key principle here is that the only party that may be damaged by poor service or trading by the firm is the firm itself.

However the growth of major unregulated participants may be seen to pose a systemic risk to other market participants and to the market itself. For this reason we believe that it may be necessary to ensure that sufficient oversight is given to protect the broader interests of the market.

For example, it may be the case that if a single trading firm becomes systematically important e.g. exceeds on a consistent basis a set percentage of a particular market, then should be regulated. The relevant criteria for regulation should be decided between the appropriate bodies at a cross-border level to ensure that regulatory arbitrage does not take place. For example, a level of 2.5% of turnover in a particular asset class may be judged as appropriate.

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However in order to encourage innovation and enterprise any measures taken should not restrict the opportunities for sole traders and new start-up firms that pose no risk to others than themselves.

Q2: 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 response of AAC does differ significantly. In the circumstances where a regulated intermediary is used, we believe that the regulated firm has primary responsibility for compliance with certain market rules and other requirements such as position reporting.

However it should be very clearly stated that the regulated firm can only be aware of, and control certain aspects of its client's trading activity. A key distinction that is not always recognised in current exchange and regulatory disciplinary proceedings is that an intermediary will provide a service on the instruction of a client and it would only be in exceptional circumstances that it was aware of a *mens rea* and in even rarer circumstance would the firm be able to act to prevent on that knowledge.

A further aspect that would also have to be addressed is the treatment of clients that are significant in terms of market volume and impact yet are not primarily trading or speculative in their purpose. Examples include the very big commodity players (e.g. oil majors, mineral extractors, and soft commodity producers and consumers) whose activities are primarily hedging. It appears inappropriate that such entities would need to be regulated in the same manner as financial institutions.

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 primary recommendations that AAC would make are for the responsibility of the pre- and post-trade controls to be placed in the most efficient place in the transaction chain. For this reason we believe strongly that trading venues must be made significantly more responsible for pre-trade risk controls and market integrity than is currently the case.

A typical example relates to the pre-trade risk controls required to control wash trades. To manage this event, a member firm needs to write appropriate controls into its front-end trading software. If it uses several front-end systems, then this effort may be required several times over. This effort would then be multiplied by the tens or hundreds of members of that trading venue.

If the trading venue itself had a pre-trade risk layer that blocked these wash trades when they were submitted to the matching engine, then the effort would have to be expended only once – a saving of many man-hours by member firms and creating much greater efficiency in the market as a whole.

A further benefit to the integrity of the market is that an exchange-managed surveillance solution imposes exactly the same latency on the trading of each user. This would prevent

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firms exploiting latency differences arising from different software used for pre-trade risk controls. Under the current structure of regulation, there is a strong commercial disincentive to build effective pre-trade risk controls as this imposes a latency that disadvantages that firm's traders.

Placing responsibility for pre-trade filters at the trading venue significantly reduces the incentives for regulatory arbitrage between exchange member firms. This structure reflects the fact that it is technically easier and economically more efficient for exchanges to manage pre-trade risk layer, and this should be expected to form part of their existing responsibilities of maintaining an orderly market. The use of a pre-trade risk management layer managed by the trading venue would also offer all member firms a level playing field on which to participate. The effectiveness of member firms use of the pre- and post-trade controls could still be monitored by periodic inspection and audit.

In response to the second question posed, AAC is not aware of any data that has proved conclusively that HFT has created a higher level of risk to the efficient operation of markets. There are specialised risks to HFT although these are capable of being managed by the use of appropriate tools such as "red button" controls and real-time risk management.

AAC has noticed a greater level of regulatory understanding recently and would proposed that a standard is established to deliver the same quality of pre- and post-trade risk controls as the United States SEC recently proposed.

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)?

AAC believes in the use of properly designed and implemented circuit breakers. In particular, they must be harmonised across venues to ensure that no competitive position taken by individual exchanges. This would circumvent the purpose of the circuit breaker in creating a halt in specific instruments, and could even aggravate market turmoil by creating asymmetric trading patterns.

We feel that it is adequate to allow venue operators to design their own controls, however they must be agreed with regulators in order to ensure that they will maintain an orderly market across all relevant venues, including both cash and derivative instruments.

This should also include clarity on the erroneous trade policy of each market, in order that participants have certainty on whether their trades executed in a volatile market will stand or will be broken. This issue is linked to Q.5 and the role of market makers as it will be a significant disincentive to market makers to continue quoting during volatile or high volume markets if there is an inherent risk that their trades will *ex post* be declared invalid.

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?

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AAC believes that the nature of market maker schemes offered by trading venues should be a commercial decision of the exchanges themselves, and subsequently to the decision of trading members to decide whether to participate in them. It should be left to the trading venue to choose the most appropriate remuneration model, type of incentives and associated obligations to be part of the scheme.

It is not clear to AAC what existing problem these proposals are intended to address. If there is a current discussion on whether there is an issue with "good" and "bad" liquidity in markets, then it is not stated what the alternatives would be. There is no readily apparent method of compulsion that could be introduced to market participants in order to force them to provide liquidity.

Equally, there is no evidence that market-makers can stop a market falling or rising when sentiment is against it. It is fully understand that market makers receive certain privileges based on their contribution to market but must be allowed in extreme circumstances must be able to step out of obligations in order to ensure the survival of their own business activities.

Q6: Do you have suggestions for improvements to regulators' surveillance capabilities with respect to the markets and modern trading techniques? Please elaborate.

We have no specific suggestions for regulators' surveillance capabilities as these requirements will depend on the individual regulator's supervisory priorities and their preferred method for meeting them.

A suggestion that we would make is to compel trading venues to provide member firms as well as regulators with both pre- (order drop-copies) and post-trade (real-time execution confirmations) data in an electronic format and on a cost-only basis. This will assist firms to perform their own surveillance and assist the regulators in their oversight role. It is in the interests of both firms and regulators to ensure that trading venues are transparent and efficient.

Q6: 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.

It is the opinion of AAC that the costs of ensuring that trading venues are efficient and fair places to transact business are primarily those of the venues themselves.

As part of the regulators' conditions of licensing or recognition of a trading venue should be requirements for minimum standards covering *inter alia* membership criteria, systems functionality and robustness, compliance and risk management controls within front-end trading systems allowed to access the venue, and policies and procedures to deal with extreme scenarios.

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?

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AAC perceives that the major difficulty that causes settlement failures is that local settlement systems do not communicate well with each other. In particular this causes cross-border difficulties that are becoming more prevalent with a proliferation of trading venues and remote trading.

AAC has seen that the implementation of Target2 settlement is good step in right direction. AAC believes that the current state of settlements does not require additional regulatory intervention, and AAC sees a settlement efficiency that is typically around 97%. In such an environment it is difficult to identify a specific settlement failure that regulatory intervention could address.

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 AAC does not have a brokerage desk to fulfil client orders or engages in proprietary trading, AAC has no opinion to express on this question.

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?

Yes, AAC is firmly of the belief that the principles of rules to prevent market abuse and disorderly trading are neutral to the method of execution of the transaction.

Market abuse is not committed *ab initio* by technology, HFT or other forms of electronic trading. They are merely the means by which abusive behaviour may by conducted by the individuals that are using technology, including computer generated orders, to execute their strategy.

In simple terms, a computer is not yet able to program itself, and it does not have a free will to determine to commit market abuse.

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

No, not in our experience.

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?

AAC believes that the charging structure for access to and execution on trading venues is a commercial decision of the exchanges themselves. Certain exchanges already levy charges on these and similar bases. It represents part of the competitive positioning of trading venues and also takes into consideration other factors such as the nature of their participants, products and trading strategies and particularly the venues' own IT infrastructure. Charges are often used to ration access to a trading venue when unlimited access would cause slow-downs or other technical issues.

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It should not be the responsibility of the regulator to dictate to commercial organisations about how their pricing should be set. As long as the pricing model is transparent and non-discriminatory, subject to qualifying criteria, then AAC does not see the need for regulatory intervention.

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

Yes, to assist the non-discrimatory objective, if there is a methodology or rationale used by the market-operator to ration access to co-location services, this methodology should be made known to all members and/or prospective purchasers of co-location services.

If necessary, a pricing mechanism to ration access could be used, such as an auction method. However this mechanism should also be transparent and accessible to all possible and eligible 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?

Yes, automated trading systems should be adequately tested in test environments before being released into production live markets. In conjunction with this proper change control process and test schedules should be in place in order to ratify this testing. Exchanges should also be made to provide decent, realistic and free from high cost environments and not just empty shells for this testing to take place. Some exchanges currently have prohibitively expensive test environments that work against a company's desire to do proper and thorough testing.

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?

A significant concern of AAC is the risk to regulators of anecdotal evidence or political statements being used to influence policy.

It is a broadly held view within financial markets that the primary reason for lower volumes is the general state of the global economy and the world economic outlook rather than fear of markets not being efficient.

Thus much effort could be wasted, and real costs incurred in attempting to perfect a market mechanism to ensure fair and efficient trading venues when the incremental benefit to participants and end-users is negligible.

We therefore encourage IOSCO to focus its attention on genuine and evidentially-identified market failings and not to scapegoat particular sectors that are subject to uninformed speculation.