European Principal Traders Association

Position on Revised Proposals for Markets in Financial Instruments Directive (MiFID II)

1. **FIA EPTA believes in a comprehensive regulatory framework and as such supports Article 2(1)(d), which would require authorisation of all market participants with memberships to regulated markets and multilateral trading facilities.**

2. **FIA EPTA members purely trade their own capital and are reliant on their own risk controls to preserve this capital. FIA EPTA, therefore, believes that trading venues and market participants should have robust risk controls in place to address risks inherent in electronic markets and is fully supportive of the risk control requirements in Article 17(1) as well as the ESMA's Guidelines on automated trading.**

3. **FIA EPTA members believe that access to markets should be open to all, non-discriminatory and provided at a reasonable cost to market participants in order to minimise barriers to entry and increase competition. FIA EPTA members also believe that markets should strive for transparency for investors and market participants, both pre and post trade. Article 17(3) is inconsistent with both these principles.**

4. **FIA EPTA supports well calibrated order-to-trade ratios determined by trading venues to ensure orderly trading on their platforms.**

5. **FIA EPTA believes that markets should be transparent and open, and therefore fully supports pre- and post-trade transparency measures including on-exchange trading.**

1. FIA European Principal Traders Association

FIA EPTA is an association of European principal traders formed in June 2011 under the auspices of the Futures Industry Association (FIA). FIA EPTA represents more than 20 principal trading firms that, on a combined basis, are responsible for very significant volumes of trading in many asset classes on European regulated markets and multilateral trading facilities (MTFs). On average and across the main trading venues in Europe, one in two transactions in futures and one in three transactions in equities very likely have an FIA EPTA member firm on one or both sides of the transaction[1].

The mission of FIA EPTA is to support transparent, robust and safe markets with a level playing field for all market participants. As such and in light of market driven events and key technological developments since MiFID was first implemented in 2007, FIA EPTA members welcome the European Commission's proposals and fully endorse the objectives supporting the MiFID II Review. In formulating its positions and careful considerations with regards to the key MiFID II proposals, the group has been able to draw on a wealth of expertise and detailed knowledge of the markets from the perspective of its experienced and sophisticated membership.

[1] These ratios are based on estimates of the association and the understanding that each transaction has two sides.

2. Guiding Principles for the MiFID II Review

We believe that the revised MiFID regulatory environment with respect to financial markets and the trading in financial instruments should focus on:

- **Regulating all direct market participants**. FIA EPTA believes that any market participant in Europe with direct access to markets should be authorised by a competent authority. In this respect, we are strongly supportive of the provisions as contained in article Article 2(1)(d);

- **Promoting responsible risk management**. FIA EPTA believes that exchanges and market participants should have safeguards in place for managing the various risks inherent in electronic markets. To this effect, FIA PTG (FIA EPTA's sister organisation) has published a set of recommendations on implementing risk controls for trading firms;[2]

- **Supporting resiliency and safety of financial markets**. Market participants and exchanges need to implement stringent controls and procedures to ensure that systems are robust. To this effect, FIA EPTA has issued a set of recommendations for software development and change management.[3]

WHILST extending the substantial gains that have accrued to investors from automation and competition:

- **Lower trading costs**. Research shows that trading costs since the introduction of MiFID have fallen by between 21% and 30%;[4]

- **Reduced bid-ask spreads**. Research shows that bid-ask spreads have declined by almost 30% since 2005;[5] and

- **Greater liquidity**.[6] Research shows that the available liquidity in the European order books has improved considerably since 2006, prior to the adoption of MiFID.

3. FIA EPTA position on key provisions in MiFID II Proposal

Detailed remarks by issue:

(a) Comprehensive regulatory framework: Article 2(1)(d)

The members of FIA EPTA are committed to a sound regulatory framework. We believe that all firms who are members of a trading venue should require authorisation. As such, the members of FIA EPTA strongly support the proposed amendment to extend the scope of the MiFID regime to capture principal traders engaged in market-making activities or are members of a regulated market or MTF.

(b) Definition of algorithmic trading: Article 4(30)

FIA EPTA believes that the Article 4(30) definition of "algorithmic trading" is appropriate and workable. FIA EPTA believes too much commentary and media reporting has focused on supposed 'high-frequency trading strategies'. High-frequency trading is simply a new means, or tool, used to implement age-old trading strategies such as arbitrage and market-making. As principal traders, FIA EPTA members engage in a wide range of these trading strategies.

We note that our position is in line with the conclusions reached by ESMA's Task Force established in February 2011 to consider micro-structural issues in an automated trading environment and which resulted in the publication in December 2011 of Guidelines on systems and controls in an automated trading environment for trading platforms, investment firms and competent authorities[7]. See also below under section 5 (Risk Management).

[2] Reports available on FIA EPTA's website [http://www.futuresindustry.org/epta/].
[3] Reports available on FIA EPTA's website. [see in particular: http://www.futuresindustry.org/downloads/Software_Change_Management.pdf].
[4] Oxera.
[5] Measured by the cost of executing 25,000 Euros in the main European Index names from the midpoint.
[6] Measured by the cost of executing 500,000 Euros in the main European Index names from the midpoint. The data show that in 2005 the average execution price was 69 basis points, in 2011 it was 35 basis points.

(c) Participants' obligations to the marketplace: Article 17(3)

FIA EPTA members believe that access to markets should be open to all, non-discriminatory and provided at a reasonable cost to market participants in order to minimise barriers to entry and increase competition. Our members also believe that markets should strive for transparency for investors and market participants, both pre and post trade. Article 17(3) is inconsistent with both these principles.

Article 17(3) proposes to require a subset of firms to post firm quotes at competitive prices with the result of providing liquidity on a regular and ongoing basis to trading venues at all times, regardless of prevailing market conditions. To impose quoting obligations on a subset of firms in any piece of legislation is, in our view, without precedent. It is akin to mandating all banks to provide credit continuously to whoever demands it, regardless of credit history or any other regular credit considerations**.**

Obligation to quote continuously is inconsistent with other MiFID objectives

FIA EPTA is unclear about the risk that Article 17(3) is designed to address, but believes that it is inconsistent with the risk management and transparency objectives in MiFID.

- *Inconsistent with Risk Management Objectives.* Article 17(3) is inconsistent with the requirement in Article 17(1) for firms to establish effective systems and risk controls. Continuously quoting regardless of prevailing market conditions presents significant risks to an investment firm. Firms must be allowed to pause and assess current market conditions, especially if market information is unavailable or unreliable or trading would require firms to take on positions outside of their risk tolerances.[8]

- *Inconsistent with MiFID's Transparency Objectives.* Because the requirement in Article 17(3) would make it difficult for firms to provide liquidity on public, transparent markets, market participants would need to find liquidity and trade in the over-the-counter market. Discouraging trading in the public markets is contrary to the transparency objectives in MiFID and EMIR.

Without clear offsetting incentives, obligation to quote continuously is discriminatory and anti-competitive

Instead of imposing a continuous quoting obligation on a subset of firms FIA EPTA believes it would be best to let trading firms sign-up to a market-marker program developed and enforced by the Regulated Markets. Market-maker programs of European and US exchanges provide incentives to market makers in return for meeting certain obligations, such as providing liquidity at the best bid and offer, assuring successful price formation and market stability.[9] These regulatory or commercial incentives are designed to offset the costs associated with a market maker's obligations.

Article 17(3), on the other hand, would impose a significant additional cost on a subset of firms without any offsetting incentives or a well-articulated objective. If some market participants are required to make continuous markets, they will incur costs associated with that obligation that other market participants do not bear. Imposing obligations on a subset of firms without commensurate incentives would, in FIA EPTA's view, be discriminatory and an unfair barrier to competition.

(d) Markets' obligations to limit the potential for disorderly trading conditions: Article 51(3)

FIA EPTA supports robust requirements for regulated markets' systems resilience, circuit breakers and electronic trading.

In particular, FIA EPTA supports the proposed requirement in Article 51(1) that regulated markets have effective systems in place that are resilient and capable of handling large order and message volumes. In addition, we support the requirements in Article 51(2) for regulated markets to have order filters in place,

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[7] See ESMA's Final Report, Section IV, Q6, Note 45.

[8] This was recognised by ESMA in the Final Report on systems and controls in an automated trading environment. In Guideline 2(d) subparagraph 1 ESMA states that "working effectively in stressed market conditions may imply (but not necessarily) that the system or algorithm switches off under those conditions". In addition, in Guideline 2(e) subparagraph 1, ESMA states that investments firms "should deal adequately with problems identified as soon as reasonably possible in order of priority and be able when necessary to adjust, wind down, or immediately shut down their electronic trading system or trading algorithm."

[9] We note that even the most stringent market maker programs do not require market makers to maintain continuous two-sided quotes 100% of the time.

volatility controls to pause trading when there is a significant price move, and clear and objective trade cancellation or modification rules.

Order-to-Trade Ratios

A regulated market's limits on the ratio of unexecuted orders to transactions – as required in Article 51(3) – can complement the markets' procedures and arrangements to ensure its trading systems have sufficient capacity to deal with peak order message volumes and to ensure orderly handling of trading in all market conditions. FIA ETPA, however, believes that limits on order-trade ratios are best left to trading venues (both regulated markets and MTFs) to determine, in consultation with their home country regulator. A one-size-fits-all approach, as currently contemplated would harm liquidity and discourage competition in certain asset classes.

Regulators have an interest in trading platforms establishing order-to-trade ratios that ensure market participants do not send more messages than exchange systems can process. This ratio, however, will vary – sometimes dramatically – depending on a regulated market's technology and systems. Because there is a **positive relationship between speed, capacity and liquidity,** some trading venues may choose to invest heavily in the most up-to-date technology that allows the market to handle large volumes of information quickly..

More importantly, new entrants, with few trades, will initially have much higher order-to-trade ratios as they try to gain market share from more established markets. For this reason, limiting the order-to-trade ratio on a basis other than the ability of a particular trading platform to handle messages would be **anti-competitive** because it would limit the ability of trading venues to compete on the basis of the quality of their systems and would be a barrier to entry to new markets. In addition to this, it will become virtually impossible for some derivative asset classes such as exchange traded options to be screen traded.

Furthermore, exchanges have a strong economic incentive to limit excessive order messaging. In an environment where exchanges are competing for order flow, having the capacity to handle large numbers of order messages with little or no effect on system performance is an important competitive advantage. For this reason, technologically advanced exchanges such as Eurex, CME Group and IntercontinentalExchange have developed policies to penalize firms that engage in excessive messaging. In effect, the exchanges are discouraging the wasteful use of an expensive resource.

FIA EPTA believes that reasonable order-trade ratios can complement other measures to ensure that markets' systems operate in an orderly manner. It is important that any order-to-trade ratios consider the following characteristics:

(i) Liquid v. Illiquid Products. Trading venues need to consider the differences between liquid and illiquid products. Products that are traded infrequently will require higher order-to-trade ratios than high volume products.

(ii) Type of Market Participants. Market makers that post quotes will send more messages than participants that remove those quotes. For this reason, market makers should be permitted higher order-to-trade ratios than other types of market participants. See for example the recent order to trade ratios set by Nasdaq and DirectEdge both of which provide for a market maker exemption.[10]

(iii) Impact on Spreads. Unless carefully tailored to the product and market, order-to-trade ratios can cause spreads to widen – thereby increasing costs to investors and potentially making over-the-counter markets and other "dark" venues more attractive.

Minimum Order Resting Time

Another method suggested for limiting the number of messages sent to markets is to require that orders rest on the market for a minimum period of time, for example 500 milliseconds. However, unlike order-to-trade ratios, which can be designed to eliminate inefficient quoting without impacting the quality of quotes, a minimum resting time for all orders or quotes would increase the market risk of posting such an order or quote. Requiring participants to expose themselves to the risk of a market move for an artificial length of time would cause providers of liquidity to adjust their pricing to accommodate the uncertainty of market

[10] Direct Edge introduces Message Efficiency Incentive Program (MEIP) effective May 1, 2012, pending SEC approval [http://us1.campaign-archive2.com/?u=cff218c930bf350c436e935c0&id=f46265dc2d&e=47d2396067] and NASDAQ, BX and PSX Excessive Messaging Policy [http://www.nasdaqtrader.com/TraderNews.aspx?id=ETA2012-13]

moves during that period. The cost of this additional risk would be reflected in each order or quote through wider spreads and would, in turn, raise trading costs for all investors, both retail and professional.

In addition, we believe minimum order resting times will have the following negative side-effects:

- It would take European markets back at least seven years and would undo much of the improvements in market quality achieved over that time. **Spreads would widen, and liquidity would decrease**, resulting in **higher transaction costs for end users** and **less liquid markets.** It is ironic that growth market exchanges in countries such as Brazil, Hong Kong and Singapore are making substantial investments in technology in order to improve liquidity, whilst Europe is contemplating doing the reverse.

- Wider spreads would move more volumes to be transacted **off-exchange** and incentivize internalisation, contrary to the objectives of MiFID and EMIR.

- In times of extreme volatility, market makers would be more reluctant to provide liquidity because of the added risks, vastly increasing the chances for **more extreme price swings**.

- It is worth noting that this method would make liquidity adding strategies substantially less attractive, whilst liquidity taking strategies would potentially benefit because of **increased market inefficiencies**.

FIA EPTA understands that there is public debate about the speed at which trading in modern markets occurs. For FIA EPTA members, speed is an essential tool to manage risk by controlling how and when orders are placed and modified. For each order or quote that an FIA EPTA member displays on a market and with which other market participants may trade, the firm is exposed to risk for that order or quote. If the market moves, the firm remains at risk that another participant will trade with its "stale" order or quote.

The faster a market can process a firm's cancellation or modification of its order or quote in response to new market information, the better FIA EPTA members can manage their risks. This ability for FIA EPTA members to manage their risks ultimately benefits other market participants through better priced and larger-sized quotes. For these reasons, FIA EPTA members believe that well calibrated order-to-trade ratios are a better means to limit unwanted messages. Order-to-trade ratios allow market participants to manage their trading activities within clearly established parameters, while preserving the risk management benefits of allowing quotations to be modified as quickly as technology permits.

4. Other provisions in the MiFID II Proposal: FIA EPTA supports transparent, robust and efficient markets

FIA EPTA strongly supports the aims of MiFID and EMIR and recognises the positive impact regulatory reform continues to have on the development of a transparent, efficient and robust European financial marketplace.

Whilst FIA EPTA highlights some limited but pressing concerns regarding proposed regulatory reform it is important to also single out specific initiatives our organisation believes will safeguard the trading environment by minimising systematic risks and facilitating the delivery of a fair and level playing field for all market participants.

Risk Controls and Internal Procedures

FIA EPTA is committed to the minimisation of risk and the optimisation of controls related to the safe operation of electronic systems in today's financial markets. As noted elsewhere, the Association fully supports the work of ESMA to establish guidelines relating to these specific areas.

Furthermore, FIA EPTA has taken a lead role in pushing this agenda further by seeking to establish industry best practice with regards to software change management[11] and endorsing FIA PTG work on risk controls for trading firms.[12]

[11] FIA PTG & EPTA Software Development and Change Management Recommendations [http://www.finextra.com/news/announcement.aspx?pressreleaseid=43608]

Market Abuse Directive (MAD)

FIA EPTA fully supports the proposed changes to MAD designed to provide well-defined and clear regulation to detect, deter and enforce actions to counter fraudulent and manipulative behaviour.

Market Access Control

FIA EPTA welcomes the proposal in Article 51(4) prohibiting unauthorised firms from providing direct electronic access to the regulated markets. This proposal complements the requirement in Article 2(1)(d) that all members of trading venues be authorised and is important to mitigate the risks associated with market access.

Pre-Trade Risk Controls

FIA EPTA supports reform designed to insulate markets from firms' activities that may be detrimental to other participants or service providers, whether through error, negligence or design. Asset specific pre-trade risk controls, the rejection of orders outside pre-defined price / volume thresholds and platform-level volatility interruption controls are important developments that provide an opportunity for participants to pause, regroup and subsequently resume orderly trading when issues are resolved.

Pre- and Post- Trade Transparency

FIA EPTA believes pre- and post-trade transparency are essential ingredients for market integrity and supports the associated articles in MiFID and MiFIR.

Description of Trading Systems

FIA EPTA agrees that firms utilising algorithmic trading systems should be transparent and open in providing an understanding of the systems employed, as required by their home regulator. This must be achieved without recourse to the disclosure of commercially sensitive information and without burdening the regulatory authorities with a disproportionate degree of data.

Co-Location Facilities

The trading landscape must be accessible, consistent and fair for all participants. Access to liquidity and market data, the minimisation of trading costs and infrastructure costs and barriers to entry are key to achieving this.

The provision of co-location facilities is consistent with these aims, equalising access for participants that choose to be near centers of price discovery.

FIA EPTA highlights the positive impact of controls requiring trading venues to ensure the rules governing co-location services and fee structures are non-discriminatory, transparent and fair.

5. Risk Management

FIA EPTA members trade their own capital. If a member fails, there will be no government bail-out. As such, FIA EPTA members have every incentive to implement robust risk controls to prevent disorderly trading or market abuse. Accordingly, the members support the requirement for risk controls set out under Article 17(1).

In addition, FIA EPTA members are very supportive of the ESMA Guidelines on systems and controls in an automated trading environment that are coming into force in May 2012. The members of FIA EPTA have been very engaged in the process ranging from individual contributions to the consultation in 2011, participation in a number of industry round-tables, feedback to their home regulator / ESMA and finally coordination amongst firms with regards to implementation of the guidelines.

[12] FIA PTG Recommendations for Risk Controls for Trading Firms [http://www.futuresindustry.org/downloads/Trading_Best_Pratices.pdf]

Algorithmic and High Frequency Trading in context

I. What is HFT and how does it make markets more efficient?

There are many complex questions facing regulators, policy makers and indeed market participants. It is our collective responsibility to answer these questions in an objective and dispassionate fashion, reaching conclusions based on careful analysis of empirical data.

It is a common misconception that "HFT" is an investment strategy in itself. This is in fact not the case. "HFT" is rather a method or facilitator for deploying a large range of investment strategies, most of which have been in existence since the start of trading on stock exchanges and therefore long before computerised trading began. In this sense, "HFT" is an evolution of trading, which has resulted from increasingly efficient technology.

Secondly, there is no single type of "HFT" trader or "HFT" firm. What we see instead is that many different types of market participants are using sophisticated technology to make their trading systems more efficient and more effective in today's electronic markets. These include market makers, investment banks, investment funds and institutional investors (including pension funds).

Thirdly, it should be highlighted that contrary to common perceptions, humans ***are*** present throughout the "HFT" cycle. In a well-run firm, "HFT" starts with a trading idea. This is developed into a software program, which is then tested thoroughly before it is deployed in the marketplace. An algorithm is simply a trading strategy translated into a computerised process. Risk controls are established, built into "HFT" algorithms and monitored daily by traders and risk managers in each firm. The execution of trading strategies is carried out by computers; but the design and monitoring of these strategies remain in human hands.

Fourthly, speed is an essential *risk management tool* for many market participants, in particular for electronic market makers. It allows these firms to post firm quotes at competitive prices and sizes on exchanges in the knowledge that it takes only a very limited amount of time to update that quote. This positive relationship between speed, liquidity and spreads is well documented and supported by empirical evidence.[13] The quicker a quote can be adopted to a new market reality, the shorter the risk period is and therefore the tighter the spreads can become.

Finally, "HFT" can be observed as a manifestation of a larger trend towards the greater use of automation in the financial markets as well as many other spheres of human activity. Automation, if used properly, generally improves efficiency at the level of both the individual organization and society as a whole. Potential risks of increased automation however need to be sufficiently monitored and mitigated in order to avoid unwanted effects.

From a social benefits perspective, the basic purpose of the exchange-traded markets is to serve the end users. These fall into three groups:

- Companies looking to raise capital to fund their business activities;
- Retail and institutional investors who seek the best possible returns on their capital; and
- Corporate and financial institutions, both large and small, that use financial instruments such as futures and options to hedge their risks.

Exchange traded markets should provide these end users with an open and transparent facility to execute their trades in the most efficient way possible at the lowest cost. The benefits of more efficient markets are easy to see: there will be more funds available for savings and retirements, greater diversification of risk-adjusted returns and better protection from price volatility.

[13] An interesting recent example is the Tokyo Stock Exchange, which adopted a new, and substantially faster system called Arrowhead in January 2010. Data shows that liquidity in the large cap stocks improved by between 62% and 88% and small cap stocks by between 139% and 126% in a four month period.

Since automation and "HFT" practices are likely to present the biggest change to financial markets in recent years, one should ask whether markets serve users more efficiently now than they did five or ten years ago, in order to illustrate the contribution of "HFT".

Numerous academic studies have addressed this question by examining transaction data from exchanges in North America, Europe and Asia. Virtually all of these studies have demonstrated that today's markets are substantially better off in any relevant metric that one chooses to focus on, including spreads, liquidity, costs, pricing efficiencies and even intraday volatility. In addition, many of these studies have presented evidence that automated trading has positively contributed to these various measures of market quality.

The relevant metrics which determine market quality (and for which academic research showed a positive effect from HFT) are:

Bid-ask spreads

Bid-ask spreads substantially narrowed in all major markets. For example, Professors Angel, Harris and Spratt found in their 2010 study[14] that bid-ask spreads in the U.S. equities market narrowed considerably during the period 1993 to 2009. This same phenomenon has been observed in all European markets.

Liquidity

Due to increased competition, exchanges have invested considerable amounts in new technologies in order to increase their speed and capacity and attract HFTs which provide liquidity. For example, Professors Riordan and Storkenmairn found in their 2009 study[15] that improvements in the speed of the Xetra trading system at Deutsche Borse led to increased liquidity and improved price discovery.

Pricing efficiency/price discovery

Based on numerous academic studies, there is strong evidence that pricing efficiencies and price discovery have improved.[16]

Trading costs

Trading costs have decreased considerably. The advent of "HFT" has enabled greater competition among exchanges, particularly in the equity markets. At the same time, increased automation in trading technology has enabled many institutions to access the markets through algorithms. Compared to the voice-based brokerage of ten years ago at tariffs of 25-40 basis points, institutions now access the markets through algorithms at rates as low as 1-3 basis points. Data compiled by Oxera[17] shows a decrease of 21% in trading costs between 2006 and 2009.

These improved metrics positively impact on the real economy in the following ways:

- Institutional investors are able to achieve better returns for those whose capital they have been entrusted with – the significant European pension funds.

- Retail investors are equally able to directly benefit from lower costs of trading and improved quality of execution.

- Corporate issuers can continue to grow their businesses by raising new capital in the primary market whose existence is entirely dependent on an efficient secondary market.

[14] Angel, James J., Harris, Lawrence and Spatt, Chester S., "Equity Trading in the 21st Century", 23 February 2010, Marshall School of Business Working Paper No. FBE 09-10 [http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1584026]
[15] Riordan, Ryan and Storkenmaier, Andreas, "Latency, Liquidity and Price Discovery", (November 22, 2011). Journal of Financial Markets, Forthcoming , [http://www.sec.gov/comments/s7-02-10/s70210-122.pdf]
[16] Brogaard, August 2010; Hendershott, Riordan "High Frequency Trading and Price Discovery"; Hendershott, Jones, Menkveld "Does Algorithmic Trading Improve Liquidity?" February 2011 [http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1928510]
[17] Oxera

Herein lies the efficiency "HFT" brings to the marketplace. While its investment horizon may be incredibly short term, its contribution to the economy is consistent with, and acts to complement and support, other market participants' long term horizons.

II. The myths surrounding HFT

The number of myths surrounding HFT has reached a high level. Below, some of the main myths are dispelled:

Myth: High frequency trading adds no value to the real economy.

Reality: HFT has substantially reduced frictional costs in the markets. According to Gus Sauter, Chief Investment Officer at Vanguard, transaction costs on US equities have been cut by about 60% in the last 15 years. He states "Generally speaking, high-frequency traders provide liquidity and "knit" together our increasingly fragmented marketplace, resulting in tighter spreads that benefit all investors. We believe that a vast majority of "high-frequency trading" is legitimate and adds value to the marketplace." The savings reaped by individual investors from these reduced transactions costs have been significant. According to Sauter, "reduced transaction costs have enabled a mutual fund investor to reasonably expect an investment balance that is perhaps 30% higher than what they could have expected only a decade ago."[18]

Myth: High frequency trading increases volatility.

Reality: The evidence does not support this assertion; in fact there is much evidence to the contrary:

- Much academic evidence concludes that HFT either has no effect or reduces volatility.[19] The one research report that concludes otherwise[20] is linking HFT activity to volatility but does not prove the causal link.

- Intraday volatility, which is the kind that HFT could influence, has remained constant in relation to end of day volatility (which is the kind that HFT cannot influence). In fact in many markets, the last period of great volatility (2001-2003) saw a higher degree of intraday volatility in relation to end of day volatility.

- Volatility in many OTC traded asset classes (CDS, IR Swaps, etc) have been at least as high, if not higher as the exchange traded asset classes. HFT has no involvement in OTC traded asset classes.

Myth: High frequency traders caused the flash crash.

Reality:

High frequency trading did not cause the flash crash according to a joint report by the CFTC and the SEC. The staffs of the two agencies concluded that a large fundamental trader's order to quickly sell 75,000 CME S&P 500 mini contracts (with a notional value of over $4 billion) created a "liquidity crisis" in the CME E-Mini futures that caused the price to drop more than 5% in four-and-one-half minutes during the most intense part of the episode.

High-frequency trading did not cause the Flash Crash and in fact absorbed the initial sell orders according to a report released by the CME. In contrast to some media references to high-frequency traders exacerbating volatility, the CME review of the trading activity during this period found that most high-frequency traders did not leave the futures markets during the market break and continued to provide liquidity under extreme market conditions. "Based on our review, there is no

[18] "Concept release on equity market structure" (comment letter to SEC), Vanguard, 21 April 2010, [http://www.sec.gov/comments/s7-02-10/s70210-122.pdf]

[19] CME Group July 2010; Jarnecic, Snape, June 2010; Hendershott, Rioirdan, Brogaard, 2009; Chaboud, Hjalmarsson, Vega and Chiquoine, October 2009; Hasbrouck, Saar, May 2011; Credit Suisse, April 2010; Frino and Zheng, 2011; UK foresight committee

[20] Frank Zhang, Yale University, November 2010.

evidence to support the proposition that high-frequency trading exacerbated the volatility in the markets on May 6.[21]

Myth: High frequency traders exit the market in times of high volatility.

Reality: There is no evidence whatsoever to support this assertion. In fact there is much evidence to suggest the opposite, which is logical. In times of volatility, the demand for liquidity (i.e. the services of HFT firms) is higher and they tend to have higher market shares as a result. FIA EPTA's own data on member's market shares clearly shows that they are highest in times of volatility.

Myth: High frequency traders provide "fake" liquidity; many of the quotes provided by HFT firms are withdrawn before they can be acted upon

Reality: This statement implies a misunderstanding of the way that automated markets work. All automated and regulated exchanges operate so-called auto-execution functionality. There is no conceivable way to put fake quotes into this system. All available quotes and orders can be executed against. Furthermore, the members of FIA EPTA have a large share of the volume on exchanges. If the quotes they put into the exchanges were fake, the firms would not have such a large share of the volume. The liquidity that we provide is not fake at all; it is very real even essential to these markets. The reason why firms update quotes is a matter of risk management. The ability to frequently update quotes allows market making strategies to quote for narrower spreads at larger sizes, benefitting all market participants.

Myth: High frequency trading is not transparent

Reality: High frequency trading by definition takes place on automated exchanges and MTFs. All quotes and all trades that are sent into these markets are completely transparent. There is a permanent public record of all these orders and trades. HFT traders base their activities fully on publicly available information and all trades and quotes can be monitored by exchanges and regulators.

Myth: High frequency trading is a form of front-running.

Reality: Firms that are trading for their own account by definition cannot trade ahead of their own customers because they do not have any customers. It is true that HFT trading strategies rely on the market data provided by exchanges, but these data are available to the public and do not contain any insider information. It is also true that many trading firms use the data on bids and offers resting in the order book as an indication of trading interest, and adjust their trading strategies accordingly. That is why many institutional investors are using algorithms to minimise the impact of their orders on the market. This is not a new problem; sophisticated traders have always sought to avoid revealing their trading intentions to other market participants.

[21] Comments by Bryan Durkin, Managing Director and Chief Operating Officer, CME Group, to CFTC Technology Advisory Committee, July 14, 2010, page 4 [http://www.cmegroup.com/trading/equity-index/files/CFTC_techadvisory_durkin.pdf]