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Taking HFT to task

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21 Nov 2012, Joti Mangat , FX Week

When New York-based broker FXCM acquired London-based proprietary trading group Lucid Markets in June, the firms' regulatory filings lifted the lid on Lucid's market presence, with an average daily trading volume of $35 billion and a total volume of $13.4 trillion for 2011.

Taken in the context of the $100 billion average daily turnover on multi-dealer trading platform EBS, and a total annual market turnover of around $208 trillion according to the Euromoney 2012 FX Poll, Lucid's disclosure highlights the essential role non-traditional market makers now play in providing liquidity to FX markets.

Indeed, fuelled by heavy investment in risk management and high-speed trading technology over the past decade, proprietary trading firms such as GSA, Allston Trading, Citadel, Getco, Gelber Group, Penson Worldwide, and RGM Advisors now compete effectively with the largest market-making banks. The dynamic has led some banks to reconsider where and when they provide liquidity, and to internalise a growing proportion of their FX trading business.

According to a report published in September 2011 by the Bank for International Settlements (BIS), specialist trading companies could continue to gain market share in spot FX as they increase participation in multi-dealer trading platforms and electronic communication networks (ECNs). Moreover, the BIS study raises the possibility that improved capitalisation, and strategic alliances such as the FXCM/Lucid merger, may allow the sector to grow its risk appetite and improve its access to client flows by feeding prices directly to market participants. Indeed some

leading banks, are already taking price feeds from HFTs.

But while academic studies present evidence of the increased volumes, lower market volatility and narrower bid/offer spreads that have accompanied the growth in non-bank market-making as positives for market quality, European and US regulators fear the lack of obligation on non-bank players to maintain two-way markets in times of market stress could amplify liquidity crises and market swings.

For instance, on September 29, members of the bipartisan European Parliament Economic and Monetary Affairs Committee voted in favour of rules compelling trading venues and exchanges to require price contributors to hold orders in the market for at least half a second, and levy penalties for excessive volume of cancelled orders. Meanwhile, the Securities and Exchange Commission is running its own investigation into HFTs amid recent allegations trading companies benefit from unfair commercial and operational arrangements with trading venues at the expense of ordinary institutional investors.

Looming large in the debate is the equity market ‘flash crash’ of May 2010, when the Dow Jones Industrial Average dropped by 9%, or more than 1,000 points, only to recover within minutes. Commentators were quick to blame high-frequency equity traders for the unprecedented collapse in prices, although recent studies have focused on the influence of a rogue algorithm, and FX markets maintained liquidity by comparison.

Navigating the mirage

HFTs’ general strategy of contributing prices into as broad a range of trading venues as possible, where they update their prices every fraction of a second, has given rise to ‘quote-stuffing’, or the practice of showing far more prices than the trader has the intention to execute in order to ‘test’ market appetite for a given level. “A participant looking across all electronic markets may be mistaken into believing there is more liquidity than is actually accessible. Most public venues are intrinsically linked; for example, when a market-maker trades at one venue they may cancel quotes at others and liquidity will effectively disappear,” says Svante Hedin, managing director and head of automated trading strategies at JP Morgan in London.

While some participants say that type of behaviour is to be expected while the electronification of markets is still in its expansionary and fragmentary stage, the reduction of quote life and quote size caused by the increased influence of HFTs can be detrimental to institutional investors that have historically tended to seek FX quotes in large sizes, relatively infrequently.

Given this changing market structure, Hedin says the challenge for FX market participants is to extend their reach into a wide range of venues to maximise their information around price formation. “For clients to get the best out of a market that is growing and fragmenting, it’s essential to have simultaneous access to as many microstructures as possible,” he says.

While the acceleration of price discovery and execution online has suited participants trading small amounts frequently, banks report growing demand among institutional investors for help in navigating the new environment. Banks have responded by offering algorithmic FX trading tools that will enable clients to optimise their selection of trading venue and liquidity provider, mirroring a trend already in place in the equity markets. “Clients are increasingly coming to us for our expertise on the best way to execute their business. We have successfully provided them with algorithmic execution tools that understand and leverage these changing market structures. They are also seamlessly integrated with JP Morgan’s own liquidity. For us, this is a client-focused

business that we expect to grow very significantly in the future," he says.

Flash crash evidence scrutinised

Beyond the general observation that HFTs post more prices than they intend to execute, HFT critics suggest that as highly risk-sensitive institutions that only hold intra-day positions, HFTs will withdraw liquidity from the market as soon as spreads widen and prices begin to gap. In other words, HFTs will tend to amplify market dislocations during times of market stress, rather than act as stabilising forces, as traditional market-makers are perceived to do. Against this, HFT supporters argue that superior risk management mechanisms make non-bank market-makers less likely to exit during periods of heightened volatility than traditional sell-side participants. Furthermore, HFTs argue that they often have the ability to switch between algorithms designed for specific volatility conditions.

As noted in last year's BIS report, EBS data on the day of the 2010 flash crash in US equities shows that algorithmic execution accounted for more than 53% of total market activity on the day – higher than both manual execution, and the average rate of algorithmic execution. Although there is no refined data on the behaviour of HFT market-makers as a subset of algorithmic traders, raw data around the EUR/USD pair on May 4 reveals that as EUR/USD plunged from 1.262 to 1.252 over the space of five minutes, the number of both algorithmic and manual orders was sharply higher than the previous average. Moreover, algorithmic orders saw a larger increase than manual orders. "While the EBS data does not provide a discrete look at HFT activity itself...they are at least consistent with anecdotal suggestions that HFT players remained active throughout the session," the BIS said in its report.

According to Josh Levy, investment manager and executive director at Tactical Asset Management, a New York-based algorithmic FX trading firm that does not make markets, the gaps in liquidity are a structural feature of FX, rather than an artefact of HFT market-makers. "FX markets have for decades suffered from pockets of illiquidity following an unexpected news result, or an unexpected demand or supply shock. The RUB and BRL crises, and the collapse of the USD/JPY in 1998 all happened years before the advent of programmatic traders. There were gaps in liquidity then, and there will continue to be in the future. This cannot be blamed exclusively on HFTs," he says. Pointing to increased volumes, compressed spreads and lower volatility across emerging markets crosses, as well as the majors, he says it's hard to argue that liquidity has suffered. "We've had flash crashes and we will have them again as the market is moving quicker and can be more volatile on certain days. One trader's flash crash is another's volatile day in the market. It's the new normal," he says.

Self-regulatory routes

Forex trading shops are confident that self-regulating mechanisms provide an effective incentive for market-makers to show only prices they intend to trade, and to honour the prices they show. Levy notes that market participants – chiefly trading platforms and prime brokers – already have sufficient measures to achieve this outcome. "If we are repeatedly shown a price that our models aren't able to lift, we address the issue with the relevant executing broker or ECN. Typically, if market-makers are not pricing aggressively enough, or not honouring prices regularly enough, they are given a penalty," he explains. Repeat offenders can have their pricing feed temporarily shut down – a fairly regular occurrence in the OTC spot market. "The market has effective self-regulatory measures at its disposal," he says. With many participants preferring to trade on an anonymous basis, however, platform operators may have limited ability to identify offending counterparties once they are admitted to the platform.

Prime brokers in focus

Non-bank market makers can only access the OTC market via their prime brokerage relationships, giving the prime brokers perhaps the strongest incentive to monitor and regulate the HFT's market behaviour and risk management practices, participants say. Indeed, traders who have suffered cancelled bids tend to seek redress through the prime brokerage channels. Indeed, prime brokers' own risk management servers must be real time and co-located with their clients within each trading hub to minimise latency, while the risk management system must be at least as sophisticated as their HFT clients'.

An electronic trader at a London bank says prime brokers are increasingly focused on the risks associated with lending their name, credit and reputation to sub accounts. "From an exposure and credit perspective it's important for the prime broker to ensure they have the right systematic controls in place and stay constantly engaged with trading platforms so that they manage risk on a real-time basis," he says.

For example, last year New York-based post-trade processing firm Traiana partnered with prime brokers Citi, Deutsche Bank, JP Morgan and Morgan Stanley, and ECNs Bloomberg, Currenex, EBS, FXCM, Hotspot and Thomson Reuters to launch an industry-wide initiative to centrally monitor and manage FX trading on ECNs. By connecting prime brokers and ECNs in real time, the service provides the industry with the control and real-time risk management capabilities to manage risks from algorithmic and high-frequency trading, the vendor said. Essentially, the system allows the prime brokers to monitor their clients' risk across different platforms by aggregating positions in real time and providing a 'kill-switch' to terminate specific clients' access to the market if the client accumulates an unacceptable position.

Notwithstanding the increased use of circuit-breakers by prime brokers in trade-processing architecture to mitigate credit risk concentrations, it's not yet clear how these initiatives address the concern that prime brokers may be undercharging for FX prime brokerage, relative to the risks they are incurring.

Behind the debate around the quality of HFT liquidity versus traditional providers is the assumption that banks effectively have some kind of binding obligation to provide liquidity to their clients that non-bank providers do not share. However, anecdotal evidence suggests increased competition from non-bank players is leading banks to favour business that can make money for the FX transactions amid spread compression, lower volatility and reduced profitability.

"We see a trend towards myopia in some sell-side dealing desks that, instead of looking at the overall client relationship, have unrealistic profitability expectations. We are happy for our liquidity providers to look at profitability over the span of a month, for example, but we are not comfortable with the expectation that every single one of our trades, every single day must be profitable for them," Levy says.

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