

## Key Trends in Global and Asian Electronic Trading: dark pools, regulatory issues, and technology matters

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Asian markets are evolving quickly as many electronic trading initiatives unfold. Asia is now the new frontier for developments in technology and innovations, building on (and learning from) the successes and mistakes of mature financial markets in the United States and Europe. With the launches of Chi-East, Arrowhead and SGX Reach, markets in Singapore, Japan and the rest of Asia are anticipating revolutionary changes in high frequency cross-border trading, together with the increasing popularity and prevalence of dark pools and algorithmic trading. Technology will play a vital role in this evolution, but regulation also has an important part to play, to ensure transparency, uniformity and propriety. However, finding a balance between a firm hand and efficient free markets will be difficult, as will the unifying of the disparate and unevenly developed financial domains in Asia.

Anshuman Jaswal, Senior Analyst, Celent, noted that various factors need to be in place first before high frequency trading (HFT) can be effective, including a comfort level of usage when it comes to direct market access (DMA). There must also be greater post-trade transparency, especially with co-location, which has become increasingly important in Asian markets of late.

He said: "It's not just sufficient to have technology in place. Regulation is also very important. We need to see major regulatory change, like MiFID in Europe, to change the way the market works and reduce the issues and problems we have, with regard to cross-border trading, for example."

### Dark pools

The popularity of dark pools is a key contributing factor to the push towards new e-trading initiatives. One of the main success factors of dark pools has come from the fragmentation of liquidity that has diminished the average trade size executed on the exchanges.

Ned Philips, CEO of Chi-East, said: "The main point of dark pools is that they lessen market impact. So if you are going to trade loads of stock, you can use a dark pool to minimise impact and bring liquidity to the market. This is especially important in Asian markets where liquidity can be a major issue."

Dark pools came about because of a general dissatisfaction with lit-book exchange markets, where the operating model has benefited hedge funds and high frequency traders, at the expense of traditional institutional investors. The fear of numerous traditional buy-side firms, that they were likely to be victims of predatory trading from the algorithmic trading engine of hedge funds when trading large orders on the exchange, was reinforced by the launch of hosting services by exchanges, which could favour latency arbitrage.

Said Anshuman: "Numerous buy-side firms in Europe relied on the algos provided by their brokers with little customization, and were confronted with counterparts that had a much more sophisticated approach to program trading enabling them to take advantage of the predictability of the trading strategies used by traditional buy-side firms."

Ned Philips pointed out that, while not everybody may understand how a dark pool, a lit pool or an algo works, they all aim to reduce cost across the markets, increase efficiency and lower latency.

He added: "So these new developments, such as Reach and Chi-East, are very much driven by straightforward and simple concepts we can all appreciate. Exchanges themselves have seen

competition and, obviously, have to react in their own ways, whether by upgrading their infrastructure or partnering with technology firms.”

## Regulatory issues

In order to support an HFT environment, a unified regulatory framework is needed. Anshuman drew the example of the US Securities Exchange Commission’s recommendations for the HFT market as a likely model for Asia.

The SEC’s recommendations included mandating that market centres place additional responsibilities on certain market makers, such as mandatory quote activities or restrictions on the number of cancelled orders. It also called for more transparent post-trade reporting of activity on dark pools and more stringent risk controls for the provisioning of sponsored access, as well as requiring co-location services to be offered more transparently to the marketplace.

“We expect a refinement of the current system to increase transparency, with some additional responsibilities placed on market participants, but not truly a wholesale restructuring of the market,” said Anshuman, adding that not all Asian markets will have these factors taken into account. “Different markets will be at different stages of development. There is no one solution in terms of HFT. We have to understand the markets themselves.”

Philips agreed: “It is slightly more difficult in Asia. Europe and America is one market, with one currency and one settlement cycle. It is quite a homogenous market. Asia has a range of different markets, in terms of clearing and settlement. What we will see in Asia is a market-by-market acceptance in different ways, for example, Japan with Arrowhead, Singapore with Reach. But it all boils down to the same basics, really, of bringing more liquidity.”

With regard to Singapore, Ng Kin Yee, SVP of the Operations and Technology Group at SGX, noted that regulators are working closely with the exchanges to foster a positive relationship, despite their differing views. He stressed the importance of a regulator that is enlightened because the market is very rapidly evolving on compressed timescales, with new products and technologies.

“Regulators must be aware that market forces and innovations need to be supported, allowing changes to happen while guarding against significant negative effects. Someone mentioned that a regulator’s role is that of the person at a party who takes away the punch bowl before things get out of hand. I guess there’s an element of that, but we also must have some innovation and freedom for the market to develop,” he added.

## Technology matters

Technology is evolving so quickly that peripheral support systems sometimes cannot keep up. TK Yap, Executive Director at OCBC Securities, said the different levels of infrastructure development in various Asian countries can pose problems, particularly for network issues.

“One has to consider whether local telcos can provide a reliable network with the right amount of uptime. One may talk of latency, but one should also look at whether that latency is stable. There are a lot of markets where latency is not stable. Sometimes it works and sometimes it doesn’t.”

He added that these are huge obstacles to HFT, which need to be resolved quickly. “With some of the connections in some of these markets, we are seeing telco systems at a level where Singapore was six or seven years ago.”

Ng said that exchanges are already bracing themselves for the “wave of changes” happening in Europe and shifting swiftly to Asia. “All exchanges and traders will have to operate very differently by looking at latencies shifting from seconds all the way to microseconds. This requires totally different infrastructure, different capabilities, different software and networks. We have to look at servers that can perform and fine-tune them to levels of bare-metal efficiencies.”

He noted that Singapore has already decided to move from the middle to the head of the pack by launching a microsecond latency engine, which would help attract HFT liquidity providers to the Singapore securities and derivatives markets.

“Whether it’s efficiency of code, network infrastructure or how you trade in terms of your algorithms coming into play, the slightest variation can make a difference. We are talking about latencies in which a difference in milliseconds can change your revenue profile from one trader to another trader. All this is game-changing.”

Yap also noted, however, that changes also can be made in more mundane ways. “We have one client with an arbitrage desk who took about three months to fine-tune his latency across the whole chain – from his keyboard to his exchange. There are lots of things you can tweak, like different hubs and applications, the way lines are connected, by changing versions you have already installed. And each time there can be a measurable improvement in latency.

“We also have situations where we tell people if they want to hit the close of a market, to send orders at least two seconds before the close. Otherwise they risk not having a print. We tell them this is the twilight zone: if they send an order later than this, they’re on their own, and there’s no guarantee they can make the trade. But if they follow our advice on timing, they can get in before the gate closes. So sometimes there are these other aspects that are not very technical, but it all boils down to finding out what works and what doesn’t, and then sharing it with other people.”

Ultimately, though, all agreed that ensuring stable latency was of crucial importance. Said Philips: “The key drivers in Asia are not so different, even if we don’t necessarily want to increase speed – some institutions prefer long-term value of buying something and holding it for a year. But there is a large and growing part of the market that sees low latency and the addition of liquidity as important.”

## Implications and challenges

With greater computing power and databases, low-cost storage, high-efficiency servers, low-latency technologies, messaging protocols, and the rise of open source, what are the implications going forward?

Once HFT strategies are enabled, more US and European firms will locate their hardware and software applications closer to the exchange matching engines in Tokyo and Singapore, said Anshuman. Similarly, these firms may move to be physically closer to other exchanges in Asia, which will make co-location more important, even though he does not see the growth trajectory in Asia accelerating to the levels seen in the US and Western Europe.

Ng noted that co-location could solve the problem of unreliable telco lines, but a lot of other considerations also need to be met to attract high frequency traders. And these will have cost implications. “You must have monitoring capabilities before moving into new infrastructure and technology like fabric networks. Provide incentive schemes to attract HFT players., but then you need the ability to supervise a higher flow of traffic and have a better surveillance of the market in terms of pre-execution checks. A lot of investment needs to be put in, in order to line all the ducks in a row. And you must be able to launch all these activities before you can attract the high frequency traders.”

“And you have to give them high predictability and a very reliable infrastructure so they can do what they do best, which is execute algorithms in a predictable way, to enjoy the liquidity that is brought to the market.”

Yap also cautioned that a lot can go wrong when there are market makers, citing the example of prop shops doing European ETS trades. So, trading can be done in Singapore but priced elsewhere. He also noted that a lot of prop shops are not financial institutions these days, adding to counterparty risk. “These people need to trade huge volumes at very small spreads, so they need to book huge trades through you. Now, how do you take that large trade of \$100m a day when the client doesn’t have an S&P rating because he is not a financial institution? You go through certain clearing houses, which then come with limitations as they have to work through brokers, and it all becomes very expensive”.

“We can address these issues slowly, bit by bit, but I feel we are far from resolving them.”

In the US, there have been downside risks as a result of HFT, which Asia would do well to bear in mind. These include short-term volatility and price fluctuations, over-aggressive algorithm selection due to potential raised volatility, and increased implementation shortfall costs.

In Europe, Philips noted, MiFID2 is now being discussed. “When MiFID came out, the results were not exactly what they were supposed to be. As with any regulation, there are always ways to improve and enhance it. It will be interesting to see how things develop.”