Rising Sun - how Japan's evolving markets might herald the dawn of a new era

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Japan has always played a significant role in global affairs while maintaining a fierce independence, economically, politically and culturally. This is also true of its financial markets which, despite their size[1], have come to be regarded as highly domestic and almost inaccessible without the services of a local broker with specialist knowledge. This is reflected in the fact that analysts, more often than not, exclude Japan in any broad generalisations they make about Asia and hence the proliferation of the term 'Asia Excluding Japan' (AEJ).

This paper looks at the extent to which Japan is embracing some of the global trends in financial markets such as liquidity fragmentation, exchange consolidation and high-frequency trading (HFT). These themes are already being played out at different speeds across the broader Asian landscape and yet Japan has its own unique take on them. The final form these developments take will help shape Japan's financial markets and define its position on the international financial trading stage.

The global picture

At the heart of these global trends lies the interaction between regulation and technology. Regulators around the world are attempting to create safer, fairer and more transparent markets. Against this backdrop, market participants of all types are using technology in order to drive faster and create ever more interconnected trading paradigms. The fact that in Europe the final act of the MiFID regulations is not anticipated until 2015 (8 years after the first change became law) is testimony to how daunting this whole process has become. There is also great diversity in how regulators in different jurisdictions are seeking to achieve broadly similar goals. Figure 1 illustrates the spread between the strict rules-based approach taken by Canada and the USA through to the more principles-based approach of Europe and Australia.

Interestingly, Japan occupies a kind of no man's land where alternative trading venues have been permitted since 1998, yet there is no rigid definition of best execution that compels traders to consider them, even if they do provide better prices.

Experience from around the world suggests that regulators have also struggled to tame the law of unintended consequences which has proved to be a powerful and universal force. More often than not, outcomes have varied from regulatory expectations and new problems have arisen as a result of the initial legislation. Most obvious of these is the nemesis of regulators worldwide, HFT. The subject of much regulatory scrutiny around the world today, it was the creation of multi-market trading (by the very same regulators) that has allowed HFT to thrive in the first place.

The net result of this regulatory drive has been to fracture liquidity across an array of lit and dark venues, owned or operated by different firms or cartels, each with a different vested interest in their own and others' platforms. As a result, the historically distinct roles of market participants have become blurred. Brokers are, in some ways, acting like venues by crossing and matching flow; buy-sides are self-executing through sponsored access; and venues are smart routing orders. Competition among all these groups for optimal position in the order-flow food chain is now becoming a common phenomenon.

Greater competition for order flow has meant that market share and trading revenues have shrunk at the majority of primary exchanges as their natural monopolies erode in the face of waves of constant pro-competition regulation. This in turn has provided the catalyst for these larger exchanges to seek cross-border mergers so as to bulk up and diversify. Political self-interest and regulatory concerns over competition, however, have scuppered these deals leaving the venues to seek softer and potentially less effective alliances either through technology or through cross-listings.

A pan-Asian view

The comparatively homogeneous nature of the European and North American markets makes it possible to talk about them as regions. Since Asia is much more diverse, broad global trends have to be interpreted in a more granular country-specific way. Nevertheless, we are seeing a move towards more European or North American style market structures, but the speed of adoption varies greatly across the region.

Australia, for example, has already introduced new market integrity rules that support multi-market trading, enabling Chi-X to set up shop there. Korea appears to be going in a similar direction and is likely to revise its Financial Investment Services and Capital Markets Act and establish a licensing system for new alternative trading systems. In contrast, Hong Kong and India have so far demonstrated a preference for maintaining the status quo.

The number of alternative trading venues, both lit and dark, has also grown across the region and liquidity is fragmenting as a result –

[1] The Tokyo Stock Exchange Group ranks third behind NYSE Euronext US and NASDAQ OMX in terms of market capitalisation according to figures published by the World Federation of Exchanges

	TRADE-THROUGH MODEL		PRINCIPLES-BASED MODEL		
	CANADA	USA	JAPAN	AUSTRALIA	EUROPE
Regulation	IIROC, CSA OPR	SEC RegNMS	FSA FIEA	ASIC Market integrity rules	ESMA MiFID
Model	Trade-through model (full-depth-of-book protection)	Trade-through model (top-of-book protection)	Principles-based model (client classification)	Principles-based model (client classification)	Principles-based model (client classification)
Core concept	Market places are connected to one another and prevent trade-through (market participants can opt out and use a SOR to create the linkages)	Market centres are connected to one another and prevent trade-through (market participants can opt out and use a SOR to create the linkages)	Sell-side best execution policies are not obliged to consider every venue	Market participants' best execution policies are not obliged to consider every venue	Sell-side and buy-side best execution policies are not obliged to consider every venue
Market data	Consolidated pre-trade and post-trade data	Consolidated pre-trade and post-trade data	Consolidation left to third parties	Consolidation left to third parties	Consolidated post-trade tape anticipated under MiFID II
Tick sizes	Standardised	Standardised	Non-standardised	Standardised	Non-standardised
Clearing system	Single provider (CDS)	Single provider (DTCC)	Single provider (JSCC)	Single provider (ASX Clear), for the moment	More providers but low interoperability
Other	Strong monitoring activity from IIROC	Assessment of execution quality: Rules 605, 606 (mandatory and standardised public disclosure of order execution quality)	Threshold imposed on PTS volume inhibits growth of alternative trading platforms	Transitional period: + 12 months from 31/10/2011 We should expect further consultation	Some freedom left to member states in MiFID implementation MiFID is currently under review

Trade-through model:

- Less discretion
- Provides incentive to place limit orders (but not confirmed by academic research)
- Price is the primary criterion
- Prices are quoted gross of fees (SEC placed a cap on the fees to avoid distorted outcomes)
- Complex and costly linkages

Principles-based model:

- High discretion, difficulties in the assessment of best execution
- Size threshold needed to avoid shift of liquidity into dark
- Criteria other than price are included in best execution policy
- Client classification allows different criteria for clients with different needs
- Promotes innovation rather than forcing uniformity between venues
- Less complex linkages
- Availability and quality of data are key factors in understanding execution quality

Figure 1 The Regulatory Spectrum

but at differing speeds. SBI Japannext has been joined by Chi-X in Japan, while Chi-East is present in Singapore. The region has also seen a number of large international banks and brokers import the dark pools and crossing technology they built for the US or Europe and trialling them in different countries throughout Asia. This has provided regulators across the region with the same headache as their European and American counterparts. How transparent should these activities really be and what, if any, should be the minimum order size where trading occurs away from the glare of lit markets?

Of all the pan-Asian markets, Australia provides the most useful data set as a number of these global trends are playing out in microcosm in a relatively short space of time. The Australian Securities Exchange (ASX) has learnt well from the experience of other primary exchanges in Europe and developed a robust response to the threat from Chi-X – including the creation of the Australian Liquidity Centre, launching a low-latency platform (PureMatch) and cutting its fees. It seems unlikely, then, that we will see primary exchanges in Asia wrong-footed by more nimble platform operators as they were in Europe. What is less clear is how many primary exchanges will mount such an aggressive (and costly) form of defence as that followed by the ASX.

The Australian experience also serves to highlight the importance of HFT to the multi-venue trading mix. In many other geographies HFT firms supported alternative venues either through direct investment or liquidity provision. The rationale for this was that the more that liquidity was split, the greater the chance to arbitrage between them and exploit the maker-taker rebates on offer. Either way, the liquidity they provide is an essential success factor in enabling new venues to attract volume away from the primary exchanges. Unfortunately, though, the Australian Securities and Investments Commission (ASIC) may have inadvertently shot itself in the foot on this one. It has introduced a cost-recovery program for market supervision that is based upon usage or numbers of orders sent to trading venues. This in turn has had the unintended consequence of penalising the HFT community which has much higher order to fill ratios. So, in a classic case of "the operation was a success but the patient died", ASIC may be introducing a multi-market structure into Australia in such a way that effectively makes it unworkable.

Focus on Japan

The introduction in Japan of the Tokyo Stock Exchange's (TSE) new low-latency arrowhead platform in 2010 has also helped demonstrate the subtle interplay between multiple venues and the HFT phenomenon. The stated aim of arrowhead was to "achieve high-speed order placement and execution processing to meet the needs of market users in response to reductions in sizes and orders and rapid increases in the number of transactions".
It has to be said, arrowhead has largely succeeded in its goals to provide a faster, more reliable platform, to offer a co-location facility and to engage with the newly arrived HFT community. However, arrowhead was also intended to head off the threat presented by the renewed interest in the alternative trading platforms, and in this regard it has been considerably less successful. The dramatically improved speeds of execution offered by arrowhead have played a significant role in attracting HFT players to Tokyo but, because these same firms operate best in a multi-market environment, the result has actually been a boost to activity on Chi-X Japan and SBI Japannext (see Figure 2).

The law of unintended consequences has come into play once more and the question of whether arrowhead has been a help or a hindrance to the TSE remains open to debate.

Irrespective of its impact on HFT, the fundamental achievement of arrow-

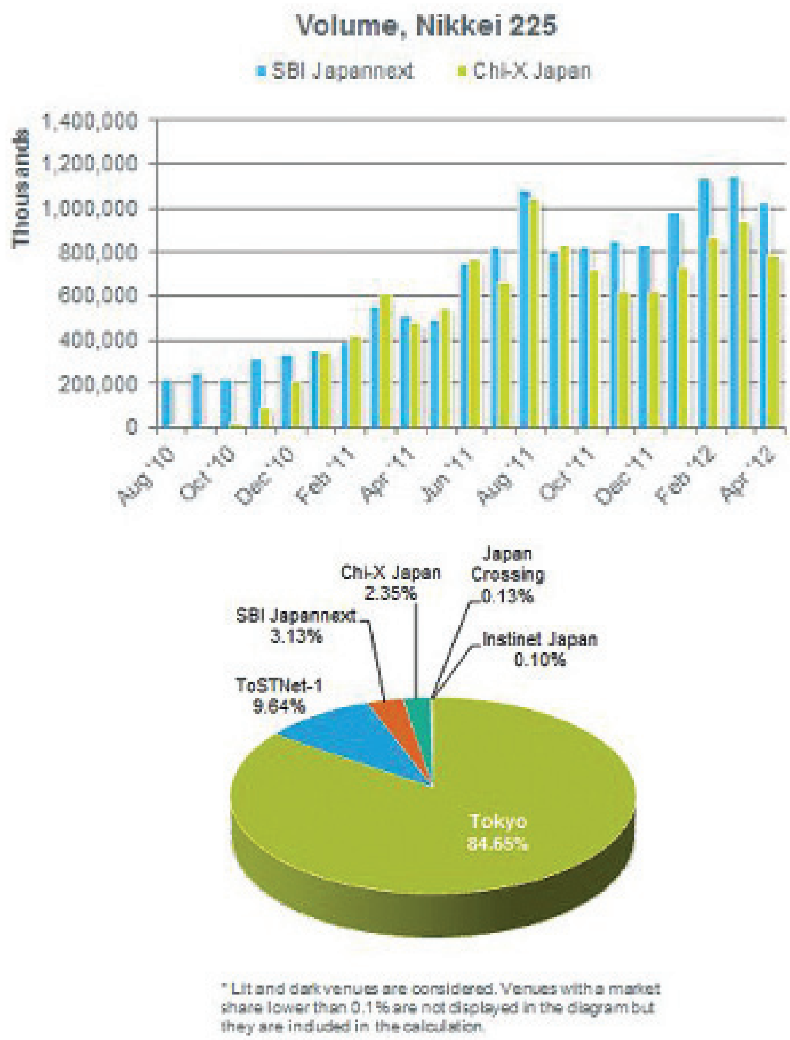

Figure 2 *Source: fragmentation.fidessa.com*

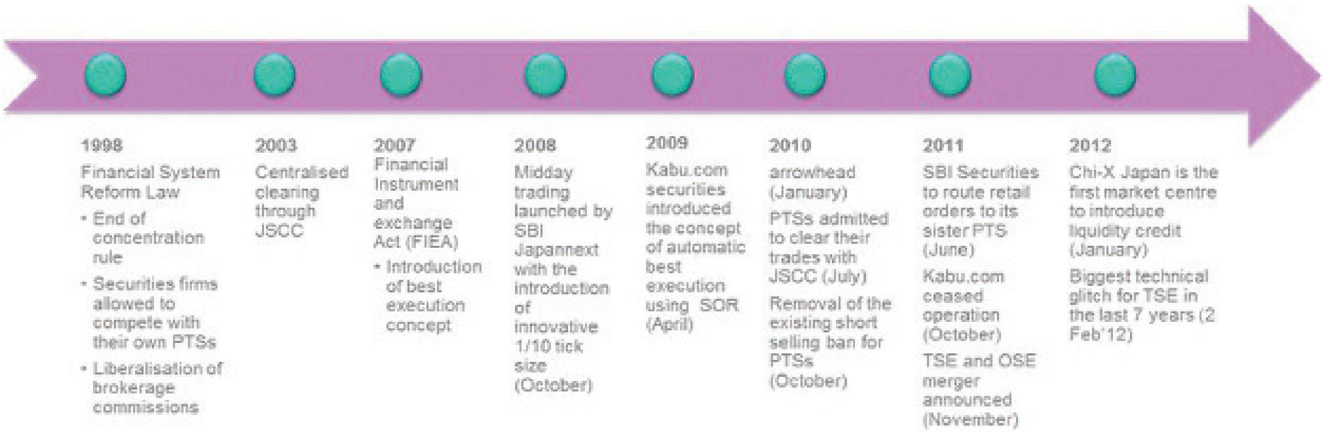

Figure 3 *Key developments in the Japanese market*

head is that the TSE now operates a trade matching platform that is fully up to international standards. This means that one of the idiosyncrasies of the Japanese market (matching orders in seconds rather than micro- or nanoseconds) has gone away and this then prepares Japan for a more active role on the broader international trading stage.

One of the next structural shifts in the Japanese market looks likely to be the proposed merger between the TSE and the Osaka Securities Exchange (OSE). Unlike the failed international tie-ups, this deal doesn't have to negotiate the same nationalist hurdles or regulatory concerns over competition. In light of this, it looks much more certain to go ahead, although of course it is still subject to a final decision by the Japan Fair Trade Commission (JFTC).

If it does go ahead, the most obvious outcome will be the creation of a larger, much more asset-converged trading venue that brings the derivatives business of the OSE within the existing cash and derivatives business of the TSE. The resultant Japan Exchange Group (JEG) would be in a better position to grow volumes, create margin offset opportunities and generally provide better use of capital for its current and potential market participants. This concept of portfolio margining has become a key competitive differentiator in other parts of the world and is due in part to the Basel III regulations that require much higher capital adequacy ratios. In any event, a combined OSE/TSE exchange would have plenty of scope for such activities, especially between its cash and derivatives business lines.

It remains to be seen, however, whether the merger will provide the operational efficiencies that would normally be expected with any such combination of similar businesses. Rationalisation of technology, especially trading platforms, is an obvious area for saving cost and providing a more integrated trading experience to members. But this requires some tough decisions on where the real centre of operations will be and what technology will become the standard. The domestic politics between Osaka and Tokyo will be a crucial element in all this, but experience from around the world shows that without a unified technology platform the JEG may struggle to generate the hoped for benefits.

A larger, more asset-converged entity, such as that being proposed, should also be able to push back against the encroachments of SBI Japannext and Chi-X Japan. As well as having great size, the JEG would also be able to benefit from the fact that multi-market trading has only really emerged in the equities space. In part this is because equities have been the primary target of the regulators to date, but the lack of fungibility between different derivatives exchange contracts also makes their competitive trading far more difficult. Perhaps the biggest advantage of the TSE/OSE merger, however, lies in its international implications rather than the domestic picture. Asia is very much seen as the next battleground in the global interplay between exchange groups. Those venues that are strongest in their local regions will command a much bigger say in the final outcome of Asian (and even global) trading. Right now, the Singapore Exchange (SGX) seems to be ahead in this super-regional game of thrones, but the combination of (sticky) derivatives trading with (more leaky) equities trading creates a more defensible position overall and would make JEG a far stronger international player. With this type of firepower it has the potential to be a consolidator across the whole region.

On the domestic front, Japan also provides a fascinating insight into the development and sustainability of alternative trading venues. Known as Proprietary Trading Systems (PTSs) in Japan, alternative trading platforms have been part of the Japanese trading landscape since 1998. However, they haven't had the impact of similar venues in other regions because there has been no rigorous concept of, and therefore demand for, best execution. Even after the Financial Instrument and Exchange Act (FIEA) of 2007, best execution remains a fairly looseconcept at best. See Figure 3 for a summary of key developments in the Japanese market.

Interestingly, one of the biggest boosts to the incumbent alternative platform, SBI Japannext, was the arrival of Chi-X as a competing force. As a global brand, associated with disruption of the status quo in other regions, Chi-X prompted a number of brokers to review and deploy technology for smart order routing (SOR), with the inevitable knock-on benefits for SBI Japannext. The fate of alternative venues was given an even bigger boost by their inclusion into centralised clearing in the Japan Securities Clearing Corporation (JSCC) and the reversal of the ban on short selling. It seems like the Japan Financial Services Agency (JFSA) is slowly removing the barriers that reinforce the status quo and so creating a much more multi-market friendly landscape.

The level of fragmentation among stocks listed on the Nikkei 225 has therefore been slowly but steadily increasing (see Figure 4), even if it remains substantively below that of the S&P 500 or the EU average. Since July 2010, both Chi-X Japan and SBI Japannext have increased their share of volumes on the lit market. This raises the question of whether they have achieved the levels of legitimacy that will encourage the next tranche of brokers to invest in SOR solutions in order to connect to them. The dial is certainly moving on this one, as confirmed by the recent decision by the Japanese Securities Dealers Association (JSDA) to reverse its rule that forbade trading on PTSs when the primary market is down.

However, there are a number of challenges that still make trading on alternative venues problematic. The first is that local brokers do not necessarily have the smart routing technology that both drives and enables multi-market structures. Although the smaller tick sizes employed by Chi-X Japan and SBI Japannext have enabled HFT firms to offer liquidity inside the TSE spread, some brokers cannot take advantage of this as their trading platforms still count in the more cumbersome TSE tick sizes. There is undoubtedly a tipping point at which SBI Japannext and Chi-X Japan have the volumes necessary to justify the investment in enabling technology, but whether it has been reached is not yet clear.

Perhaps the biggest hurdle, however, is the current form of the Takeover Bid (TOB) rule which obliges anyone buying up to five percent of a company's stock off-exchange during a 60-day moving average period to then mount a full takeover bid for that company. This rule was created with the sensible intention of ensuring that any corporate takeover was carried out in the clear light of day. But the original legislation approving alternative trading venues classed their activity as 'over the counter' (OTC) and so they have inadvertently got caught up in this rule (and the law of unintended consequences). If the JFSA is genuinely trying to make life easier for the PTSs, then this is the next obvious obstacle to remove. Until then, many of the large investment houses in Japan will remain very wary of using either Chi-X Japan or SBI Japannext for buying stock.

Finally, current rules that require any trading venue that has 10 percent or more of market share to become a fully-fledged exchange is also holding back the development of a larger alternative trading presence. If the JFSA were to fix the TOB rule then it seems only logical that this anomaly would be tackled too.

Impact on market participants

As Japan starts to incorporate and adjust to these changes, the pressure on market participants on both the buy-side and sell-side is growing. The evidence from Japan and other markets shows that with multi-markets come diminishing trade sizes (see Figure 5), greater off-exchange activity and, contrary to regulatory intention, a reduction in transparency. The need to navigate multiple lit and dark venues increases dependency on technology and there is a premium for those firms that can demonstrate their ability to do so.

For brokers, the smarter the execution they are able to offer, and the greater their ability to source the best outcome (which may or may not be determined by price), the more valuable their business proposition becomes. However, it does require greater investment in direct connectivity to multiple markets, in latency reduction and, crucially, in the technology to route between these venues. For financial reasons alone many medium or smaller brokers will not be able to make this sort of investment and it is likely that there will be a polarisation of brokers into large 'flow monsters' and smaller niche players.

As mentioned above, the larger international players are already stealing a march with the crossing engines that enable them to match flow internally and then smart route any unmatched orders onto external destinations. As they have in America and Europe, these firms are able to 'white label' their proprietary SOR and other algorithms to smaller brokers, which has proved to be an effective way of leveraging their investment. These are the 'flow monsters' that process flow from any number of clients, including smaller brokers, and negotiate better wholesale discounts from venues.

The trading eco-system is a complex one though, and the alternative to scale is specialisation, which is where smaller brokers can make their presence felt. In a high-speed, multi-market landscape trading intelligence is as important as trading volumes. Those smaller firms that can combine good research in certain stocks or sectors with a good understanding of where liquidity truly lies should always have a sustainable position. In the US and Europe this has led to new types of execution consulting services that add value by interpreting the execution quality in real time so as to improve client relationships and attract new customers.

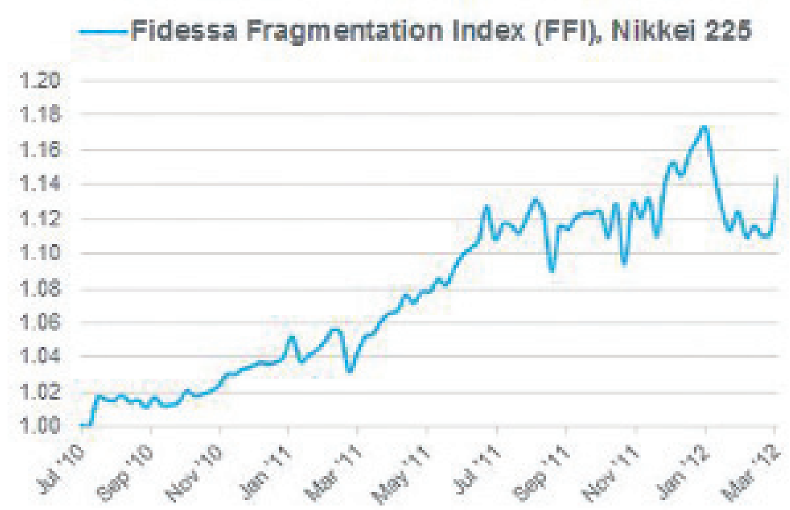

Figure 4 *Source: fragmentation.fidessa.com*

As the next tier of domestic brokers invests in SOR technology this looks like being a core competency that will enable them to step ahead of their competitors.

Buy-side firms will face similar pressures. Making sense of a fragmented landscape is just as important from a commercial and investor confidence perspective and, without a formal best execution definition, buy-sides must make an objective judgment about which of their brokers they should use in which circumstances. This can be a tricky exercise, though. Multiple brokers produce multiple execution reports, each compiled with different metrics that make any effective comparison almost impossible. In other markets, the buy-side has been busy tooling up with the right systems so as to interpret their execution quality independently and with greater accuracy. This has fed through into better portfolio returns and lower total costs of execution.

A new dawn?

For Japan the issue is far more complex than simply deciding whether to carry on along its own distinct path or join the global fold. As markets continue to globalise Japan has no choice but to become part of the international trading community, but the question is on what terms: as a force of consolidation or as a juicy target to be picked off?

The answer lies in how it responds to the global trends in fragmentation, consolidation and HFT that have come to dominate the agendas of other markets worldwide. The signs are that both the primary exchanges and the regulators in Japan are determined to become a shaping force in world financial markets. This has already led them to accommodate global concepts and relax their domestic idiosyncrasies. The big question, then, is will other market participants in the form of the domestic buy-side and sell-side firms follow suit? If they do, then they will need to invest in technology in new ways, but those firms that can do this successfully may well ride out of Japan on a wave of pan-Asian, or even global, dominance.

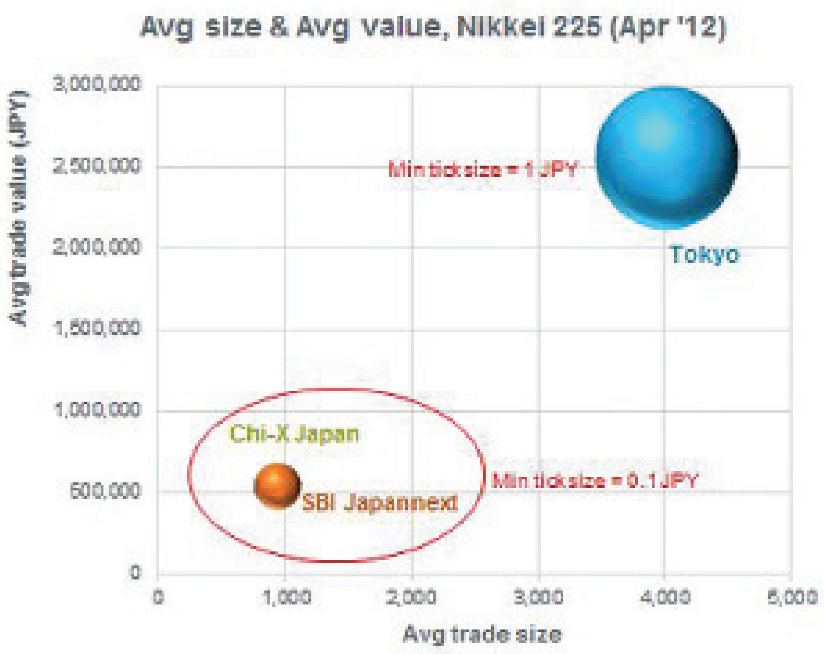

Figure 5 *Source: fragmentation.fidessa.com*

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