

# MARKET view

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SINGAPORE  
EXCHANGE

## One-stop shop for Asian trading

Muthukrishnan Ramaswami, COO, SGX (left) and Bob Caisley, CIO, SGX

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The re-regulation for OTC derivatives should be smarter and more efficient. Centralized clearing is fundamental.

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The extreme volatility and high transaction volumes of 2008 will be lower in 2009.

»The demand for central counterparty clearing of OTC derivatives will increase.»

Muthukrishnan Ramaswami, Senior Executive Vice President and COO at SGX

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Exchanges are investing in IT infrastructure and reviewing their business models to reposition themselves to succeed in the new environment.



## Egyptian Exchange launches new trading platform

The Egyptian Exchange (EGX) launched a new high performance and fully integrated trading engine, supplied by NASDAQ OMX, which will enable it to handle equities, debt, ETFs, futures, options, swaps and derivatives on a single platform. The new system will provide a much larger capacity, reduced cost and ease of operation as well as allow the introduction of a market maker system, together with the possibility of having a pre-opening “price discovery” session to help curb share price volatility. “We are confident [the new system] will help us grow volumes and liquidity at the exchange as well as support the new products that we plan to introduce in the coming years, maintaining EGX’s prominence in the region,” said Maged Shawky, Chairman of EGX.

## UK Wholesale Power Market selects market providers

The Futures & Options Association (FOA) in the UK has chosen NASDAQ OMX Commodities and Nord Pool Spot to deliver market and clearing services for the UK Wholesale Power Market. The new exchange, expected to be established in Q2 2009, will be a spot- and cash-settled derivatives

power market with the full range of clearing services. The new execution and clearing platform is expected to increase transparency, reduce barriers to entry, and by attracting new entrants into the market, generate a progressive increase in liquidity in the UK power market.

## Forbes names NASDAQ OMX “Company of the Year”



In a year marked by change and the unforeseen meltdown of global financial markets, *Forbes* magazine has chosen NASDAQ OMX as its 2008 “Company of the Year” in large part because, according to *Forbes*, it was able to capitalize on opportunities presented by the turmoil. Recent acquisitions gave NASDAQ a solid foothold in Europe, strengthened its options business, and provided additional exchange licenses as well as a clearing license, which set the stage for NASDAQ OMX to enter the clearing business. In addition, NASDAQ OMX maintained a strong focus on its core technology competency. The deal making has dramatically increased sales and earnings, according to *Forbes*.

## Agora-X launches new OTC market

Agora-X LLC launched its electronic market for OTC transactions in commodity and derivatives contracts, based on NASDAQ OMX technology. The new ECN is designed to enable institutional participants to obtain best prices in a more liquid and transparent OTC marketplace. “As Agora-X goes live, our efficiency and convenience will make a dramatic difference for OTC commodity trading...Our electronic platform brings offers and bids together to provide efficient negotiation, improved price visibility, and greater liquidity for market participants,” said Brent Weisenborn, Chief Executive Officer of Agora-X. NASDAQ OMX Group holds a 20 percent equity interest in Agora-X LLC.



## NASDAQ OMX forms partnership with OSE

NASDAQ OMX and Osaka Securities Exchange (OSE), the premier Japanese derivatives and securities exchange, signed an agreement in New York on February 3rd with the intent to form a strategic partnership in the exchange industry. The partnership includes NASDAQ OMX’s services to further develop OSE’s market model, with the objective of growing volumes in both its cash and derivatives markets. The parties will also collaborate on defining technology requirements for OSE’s next-generation derivatives trading platform scheduled for launch in 2010.

## IDCG launches clearinghouse for OTC swaps

International Derivatives Clearing Group, LLC (IDCG), a majority-owned subsidiary of The NASDAQ OMX Group, went live in December and began accepting US dollar denominated interest rate swap futures contracts for clearing and settlement. The IDCG clearing system is based on NASDAQ OMX technology. “By completing its first trade in 2008, IDCG has become a leader in delivering central counterparty clearing to the massive over-the-counter (OTC) derivatives market. IDCG has delivered a sophisticated private sector solution to help mitigate counterparty risk in a truly unprecedented time,” said Bob Greifeld, CEO of NASDAQ OMX.

## Opportunities in change

**N**ot surprisingly, coping with the unprecedented change in the financial markets in the last couple of years has been a significant challenge. Adding to the burden is the global financial crisis.

Clearly, we are facing difficult times. But, as an industry, we have an opportunity to learn from this experience and build stronger markets.

This perspective emerged from the Technology of the Future (ToF) forum held in Stockholm in mid-November 2008. Every 18 months or so, NASDAQ OMX hosts ToF for our exchange and marketplace customers. The two-day event combines thought leadership from industry luminaries with specific updates from NASDAQ OMX

»... if we learned anything from the financial crisis, it is that risk management must be a top priority.«

on technology planning and other business efforts that can benefit the industry. The theme of ToF 2008 was fittingly entitled “Opportunities in Change.”

Conference delegates agreed that the lack of transparency and central counterparty clearing services led to tremendous market risk. If exchanges played a greater role in the OTC derivatives markets, the crisis would not have been as severe. This logic has led regulators to conclude that exchanges and clearinghouses must be part of the response to this problem. And technology is the backbone of any marketplace solution.

Recent experience has shown that a particular counterparty’s creditworthiness can deteriorate quickly, and end-of-day risk calculations are no longer sufficient. Ideally, risk should be calculated intra-day – or better yet, in real-time – to ensure customers have posted sufficient collateral before being allowed to send in orders. Exchanges can look for ways to leverage their technology to calculate intra-day risk. When a customer sends in an order, the system can automatically validate the firm’s collateral and filter out bids and offers from unacceptable counterparties. Exchanges can earn revenues from this service while ensuring the integrity of the financial markets.

**TOF DELEGATES** noted that the potential to generate revenue through the sale of market data has not yet been fully exploited. UK-based PLUS Markets, which caters to investors in small- to mid-cap equities, has a unique business model in which it earns its revenue on market data, not on transaction fees. Exchanges can package data specifically for certain segments of the market such as compliance departments and regulators. And exchanges can build interfaces to offer market replay services for dispute resolution, as NASDAQ OMX has recently done.

The industry is still coming to grips with the concept of best execution as mandated by MiFID and Regulation NMS. In the US, it is simply transacting at the lowest price available at a given time. But in Europe best execution takes into account an array of factors including clearing fees, the cost of latency and spreads. No doubt compliance departments would welcome a solution from exchanges that can help with this analysis.

Exchanges also have an opportunity to diversify and generate new revenue through partnerships with

niche exchanges. For example, NASDAQ OMX has taken a minority investment in Agora-X, a technology customer that has developed an institutional ECN for OTC commodities contracts.

Market structures have changed, and the environment is far more competitive than a decade ago. Financial instruments are traded 24/7. Exchanges must think globally and adapt to international ways of trading, clearing and handling market data. They need to make acquisitions or link into partners’ networks to tap into the broadest possible customer base. And if we learned anything from the financial crisis, it is that risk management must be a top priority. Yes, all this is challenging, but optimists see the current crisis merely as another opportunity to strengthen their business model. ■

Lars Ottersgård  
Senior Vice President  
NASDAQ OMX Market Technology



### SGX Recent Milestones:

- February 2008: Introduced a new market data dissemination system.
- May 2008: Launched Proximity Hosting Service; began clearing over-the-counter (OTC) Benzene Swaps contracts.
- June 2008: Purchased Singapore Commodity Exchange Limited (SICOM).
- July 2008: Launched new securities trading engine, Quest-ST.
- December 2008: Launched upgraded derivatives trading engine, Quest-DT.
- March 2009: Announced intention to migrate to GENIUM platform by signing Migration Study Agreement with NASDAQ OMX.
- Fourth Quarter 2009: Scheduled to launch new derivatives clearing system, SGXClear.

# Gateway to Asia

By expanding its membership and product offerings, SGX is strengthening its position as a one-stop-shop for Asian trading, clearing and settlement.

BY SHERREE DECOVNY PHOTO NORMAN NG

An integral part of Singapore's financial centre, the Singapore Exchange's (SGX) strategy is to be the Asian Gateway for its customers. This is a two-pronged strategy. First, SGX offers a choice platform for companies from the region to raise international capital. Second, it also offers a multitude of Asian products for international investors to participate in the region's growth.

Given that strategy, SGX understands the need to implement systems and trading practices that comply with global standards and have been tested in larger international markets. Most important, the platform must allow all types of participants to access the market. To this end, SGX uses a number of NASDAQ OMX solutions to help provide its business with a competitive edge.

Continuing that partnership, both organizations signed a Migration Study Agreement to undertake a detailed study of a migration plan to GENIUM Trading, NASDAQ OMX's next generation trading platform. "Migration would result in SGX having ultra low latency and world leading performance, supporting our initiatives to attract more high velocity and algorithmic traders," says Muthukrishnan Ramaswami, Senior

»We needed to raise the bar on the speed, capacity, scalability and robustness of our IT infrastructure to provide our clients with a competitive advantage.»

Bob Caisley, Executive Vice President & Chief Information Officer, SGX

Executive Vice President and Chief Operations Officer at SGX.

"This agreement is the latest in SGX's roadmap to continually enhance our technology to enable our business. Our plans for growth include continuing to develop new products and services and expanding our membership. We also seek to develop close working relationships with other like-minded exchanges and partners to capitalize on complementary opportunities in our respective markets," says Bob Caisley, Executive Vice President & Chief Information Officer at SGX.

**AS INDICATED,** SGX offers a choice platform for companies from the region to raise international capital. Today, more than 40 percent of SGX's listed companies represent more than 20 countries outside of Singapore. SGX also offers investors international exposure. For example, its suite of real estate investment trusts (REITs) provides opportunities for investors to participate in Indian, Chinese, Japanese and South East Asian high yielding property investments.

Beyond primary listings, SGX offers a growing number of Asian products to enable international and local investors to participate in the region's growth. These products

include structured products like REITs; business trusts; infrastructure funds and structured warrants; and market access products, including Exchange Traded Funds (ETFs) and participation certificates.

"Currently, about half of SGX's income is derived from our external products," says Caisley. "Clearly, our Asian Gateway strategy has been successful."

In these times, market participants have also shown a preference for on-exchange trading and clearing to ensure transparency. SGX plans to meet this need by increasing the number of OTC products it clears. "The demand for central counterparty clearing of OTC derivatives will increase; something we think we will expand into as we go forward," says Ramaswami.

SGX first ventured into OTC clearing when it set up AsiaClear®, Asia's first such service for oil swaps and forward freight agreements (FFAs), in 2006. SGX AsiaClear provides clearing for 22 OTC products covering dry bulk and wet tanker FFAs and oil and aromatics swaps.

Ramaswami says, "We continue to enhance our infrastructure to achieve our goal of building an enduring marketplace. A key objective is to attract algorithmic traders. To entice these traders, we are enhancing market microstructure and customer support with a series of algo-friendly features and services. We have reduced equity tick sizes and spreads, for instance, and introduced proximity hosting services."

"We are launching new order types,

**The challenge:** Position SGX as an Asian Gateway to attract both domestic and international investors.

**The solution:** Partner with NASDAQ OMX to provide the technology and knowledge base necessary to fulfill its Asian Gateway strategy and establish a fully integrated market for the trading, clearing and settlement of equities, derivatives and commodities.



**“We continue to enhance our infrastructure,” says Muthukrishnan Ramaswami, COO, SGX (left). Bob Caisley, CIO, SGX on the right.**

facilitating co-location, and introducing direct market access (DMA) and high speed trading access. We are also improving our infrastructure to decrease latency and increase throughput, and we have put systems in place to disseminate real-time market data in new ways and are supplying customers with historical data for back testing purposes,” adds Caisley.

Executing transactions and complying with regulations are challenges for investors in some Asian markets; Singapore is comparatively user-friendly. By trading through a single gateway, investors avoid incurring the overhead of establishing operations in multiple countries.

“At the end of the day, the ability to attract different customers and market participants to an exchange is not just about innovating domestically. It’s also about innovating and being relevant to a range of international participants. In the region, SGX is unique in being able to offer a one-stop gateway to Asia,” says Ramaswami. ■

# Technology as an enabler

**S**GX originally used licensed software from another vendor for derivatives trading and in-house systems for equities trading and market data. But the exchange realized it could not accomplish its goals without upgrading its technology and services. SGX leveraged NASDAQ OMX’s knowledge base and technology solutions to implement its Asian Gateway strategy.

“We decided to move away from our in-house trading and market data dissemination system because we were hitting hard limits within the system and other capacity constraints,” explains Caisley. “We needed to raise the bar on the speed, capacity, scalability and robustness of our IT infrastructure to provide our clients with a competitive advantage.”

SGX replaced the licensed derivatives trading engine and the in-house equities trading system with an integrated platform from NASDAQ OMX, then introduced a new market data dissemination system, also from NASDAQ OMX.

SGX enhanced its service offering by adding capabilities quickly and reducing time to market for new products. It now supports almost all existing multiple order types and market models across all asset classes, which was not previously feasible.

“With our internal system, we had to develop every single new function ourselves, which took a significant monetary and time investment,” says Caisley. “The fact that we can leverage existing functionality in our solutions is a huge advantage.”

Technology improvements have continued. At the end of 2008, SGX upgraded its derivatives engine, Quest-DT, to a newer, faster and less expensive platform with added capacity and the ability to better meet increased demand from algorithmic and high velocity traders. The upgrade supports new options trading strategies and is an essential prerequisite to the launch of SGX’s new derivatives clearing system, SGXClear - also powered by NASDAQ OMX and planned for the end of 2009.

**TOGETHER WITH SGX’S** Proximity Hosting Service, this increased trading functionality will enable the exchange to better meet customer demands and to continue to build on its Asian Gateway strategy to provide a one-stop, pan-Asian equity derivatives product suite.

SGX launched its Proximity Hosting Service in May 2008 to provide traders with ultra low latency access to its equities and derivatives markets, making it the first exchange in Asia to offer sub-millisecond access to its trading engines.

“Our technology is now on par with derivatives trading platforms in the US and in some parts of Europe,” says Ramaswami. “This certainly gives our members a sense of comfort when trading in this region.”

Technology has been key to growth. “SGX tripled its trading volume and launched a host of new products since going live on the new trading engine,” adds Robert Fröjd, General Manager – South East Asia & Pacific at NASDAQ OMX. “This has had a positive effect on the exchange’s revenues.” ■

# A natural role for exchanges in OTC clearing

BY HEATHER MCKENZIE

Key industry associations say central counterparty clearing for OTC derivatives will improve market efficiency and transparency.

**M**omentum is gathering behind the establishment of central counterparty clearing for OTC derivatives, and exchanges are well positioned to step into the frame. In Europe, exchanges are lining up to offer clearing services, while in the US a debate is taking place about how much of the OTC derivatives trading life cycle should come under exchange-type controls.

In November, a proposal for a Derivatives Trading Integrity Act was introduced in the US which would bring the OTC derivatives market under federal regulation and would require OTC derivatives to be traded on an exchange. The bill was condemned by the International Swaps and Derivatives Association (ISDA), and the Securities Industry and Financial Markets Association (SIFMA). According to ISDA, if businesses and investors cannot use these products, their ability to manage risks and weather tough market conditions would be undermined.

**KEVIN MCPARTLAND**, a Senior Analyst at US-based financial research and advisory firm TABB Group, says it is logical for exchanges to be involved in OTC derivatives, but not all OTC derivatives should be traded on exchanges. “There are some instruments for which it makes sense, such

as vanilla products and standard index CDS type products,” he points out. “These are the more straightforward products and therefore the easiest place to start.”

The London-based Wholesale Market Brokers’ Association (WMBA) endorses the efforts of US and European regulators to encourage central counterparty clearing in OTC markets such as credit derivatives in order to mitigate counterparty risk. However, the WMBA stresses that several OTC markets are already fully compatible with central counterparty facility operations. For example, OTC products such as US treasuries, European interest rate swaps, OTC equities, spot foreign exchange and carbon emissions have been executed OTC and cleared centrally for some time.

**THE WMBA FURTHER NOTES** that the most recent, on-the-run US treasuries trade OTC and fully electronically, but they clear centrally through the DTCC. US energy derivatives trade OTC via voice brokers and electronically, but they are also centrally cleared through ICE or NYMEX/CME. Similarly, this applies to the operation of CLS in foreign exchange markets. These have proven to be effective mechanisms and such structures can be duplicated elsewhere in the OTC world.

McPartland says it is no accident that the four main parties vying for a place as a CDS central counterparty – ICE, CME, NYSE Euronext and Eurex – are all exchanges. “The exchanges already have central clearing for other products and it will be much easier, from an operational

point of view, to tweak their existing environment and use their existing knowledge to create central clearing for OTC instruments.”

Focusing on OTC interest rate swaps, NASDAQ OMX has also entered the OTC derivatives clearing space with an 80% stake in International Derivatives Clearing Group (IDCG), which cleared and settled its first US dollar interest rate swap futures contract in January 2009.

Kevin Rideout, Global Head of Market Infrastructures at Citi Global Transaction Services, says exchanges can play a vital role in bringing transparency to the OTC market. Straight through processing and risk management are the name of the game when it comes to clearing and settlement of OTC derivatives. “In any asset class where a bilateral trade takes place, there is a role for a central counterparty,” he notes. “A safe house where trades are netted, recorded and novated and margin is collected as protection in conjunction with default funds is an absolute must.”

**BOB GREIFELD**, CEO of NASDAQ OMX Group, agrees that centralized clearing is fundamental and also believes re-regulation is necessary. “The objective should not be more or less regulation. It should be smarter and more efficient re-regulation. We need new rules on the books, reflective of the world that exists today, not the world that existed in the 1930s. Regulated exchanges have a natural role to play in the new regulatory landscape.” ■



»Regulated exchanges have a natural role to play in the new regulatory landscape.«

Kevin Rideout, Global Head of Market Infrastructures, Citi Global Transaction Services



# Clear as mud

Preserving the benefits of OTC derivatives while improving transparency and reducing risk will be a challenge in 2009.

BY HEATHER MCKENZIE ILLUSTRATION ANNA SVANFELDT

Some observers maintain that widespread use of OTC derivatives led to the uncertainty that brought about the collapse of Lehman Brothers in September 2008 and accelerated the global financial crisis. The chaos in the world's financial markets during the latter part of last year has brought intense scrutiny to OTC derivatives markets and prompted calls for increased regulatory oversight. Inevitably, the OTC market will change in 2009 in such a way that could present central counterparty clearing opportunities for exchanges.

OTC derivatives are customized financial instruments bilaterally traded between firms, some of

which are regulated. The terms of the contract – including maturity dates, notional amounts, specifications and trading and credit procedures – are privately negotiated by the trade counterparties. The deals may be transacted across jurisdictional boundaries, and typically they are governed by contracts based on International Swaps and Derivatives Association (ISDA) master agreements.

For various reasons OTC derivatives are perceived as being more risky and opaque than standardized, exchange-traded futures and options contracts. For starters, these contracts are transparent because they are regularly marked to market. OTC



**It is the lack of transparency rather than the OTC derivatives themselves that is the problem, says Andy Nybo, Senior Analyst at TABB Group.**

contracts may or may not be marked to market depending on the contract and counterparty's policy, and price quotes can vary significantly between dealers. In addition, these contracts are cleared by a central counterparty, which reduces default risk. Some OTC contracts are cleared centrally, but not all.

A declaration issued at the meeting of the G20 group of countries in November 2008, and reinforced in April, called for greater transparency in the OTC derivatives markets. The group made a commitment to strengthening market transparency by enhancing required disclosure on complex financial products and ensuring complete and accurate disclosure



by firms of their financial conditions. It stated that there should be incentives to avoid excessive risk-taking.

Speaking at a Frankfurt conference, European Commissioner for Internal Market and Services Charlie McCreevy explained that the European Commission supports a comprehensive approach to international reform in order to avoid crises in the future. Such an approach entails strengthening of international regulatory standards; international cooperation between financial supervisors; multilateral macroeconomic surveillance and crisis prevention; and fortifying international crisis management and resolution capabilities. The Financial Stability

Forum and the International Monetary Fund need to be strengthened, their effectiveness and legitimacy must be improved, and they must be encouraged to collaborate more closely.

“We need to take urgent steps to bring OTC derivative trading out from the shadows,” said McCreevy. “We cannot let the OTC market continue without adequate counterparty clearing.”

In an address hosted by the NASDAQ OMX Stockholm office in December 2008, Stefan Ingves, Governor of Sweden’s central bank, Sveriges Riksbank, said a central counterparty provides safer and more efficient securities settlement. The transactions can be netted out, and the counterparty is known. The counterparty risks can be managed by the central counterparty obtaining collateral. Moreover, the central counterparty has its own financial resources.

**DESPITE THESE ADVANTAGES**, there is also a downside to central counterparty clearing. “The drawback with a central counterparty is that the market risks are concentrated to a single player – a high concentration of risk,” Ingves warned. “Provided the operations are properly organized, however, this is not a problem.”

Andy Nybo, a Senior Analyst at financial markets research and advisory firm TABB Group, argues that it is the lack of transparency rather than the OTC derivatives themselves that is the problem. “Derivatives are always like a stepchild when there is a market implosion or disturbance,” he says. “While the finger is often pointed at OTC and equities derivatives as the problem, these instruments devolved for particular purposes.”

OTC derivatives provide substantial benefit to the capital markets. By allowing risk to be transferred, firms can access markets and deploy capital to take positions or manage risks on their books. Further, OTC derivatives are not transparent for an important

reason: investors want anonymity.

Sandy Frucher, Vice Chairman at NASDAQ OMX, agrees that investors have been attracted to OTC derivatives because of their lack of transparency, but tradeoffs have to be made. “What we have learned over the past year is that the risks of these instruments to the world’s financial markets are too great,” he says. “It is likely that reform of OTC derivatives will be high on the agenda for the new Obama administration.”

**BUT IT WILL NOT ONLY** be regulators who sort out OTC derivatives. Kevin Rideout, Global Head of Market Infrastructures at Citi Global Transaction Services, says massive steps are being made by market participants to clear up the mess. “There are RFPs flying around all over the place for CCPs to step up and novate OTC derivatives,” he says. “Like it or not, the regulators will have to put their foot down and make their mark on this space. It will be a much more regulated marketplace than before.”

Market players would prefer principle-based governance to rules-based governance. A principles-based approach establishes a top line goal and allows individual firms to work out how to get there as long as they do not violate the larger principle. Ultimately, this model is more conducive to innovation, and it allows new products to be introduced quicker. In a rules-based approach, the regulator sets a standard and all firms have to comply with it.

Regardless of which approach is taken, it is likely that regulators will be more proactive in the coming year in forming policies that will push the OTC markets into a more transparent trading environment. In the meantime, the industry is working to develop solutions that can better manage the trading and pricing of OTC instruments as well as the creation and management of central clearing facilities that can handle the requirements of the OTC equity derivatives marketplace. ■

# Withstanding volatility

Extreme volatility resulted in high transaction volumes in 2008 – a trend that is unlikely to continue.

BY SHERREE DECOVNY ILLUSTRATION ANNA SVANFELDT

**D**uring the latter part of 2007 and all of 2008, over-leveraging and financial services risk spilled over into the mainstream economy, creating widespread uncertainty. These conditions caused the markets to go into wild convulsions. Exchanges benefited from the volatility because volumes exploded, but experts say that in 2009 such high volumes are unsustainable.

Risk and uncertainty drive volatility, which affects particular companies and industries as well as the general economy. Since the financial crisis began, some sectors have been more volatile than others. On a continuum, financial services would be at one end of the spectrum and low-cost consumer staple goods at the other. Between late spring and fall 2008, the share volatility of Bank of America and Citigroup went up 10 times, whereas the share volatility of giant retailers Wal-Mart and Costco merely doubled.

Normally, one or two asset classes might experience high volatility simultaneously. But this time, there were wild price swings in almost all asset classes. At the height of the global financial crisis, the Chicago Board Options Exchange Volatility Index (VIX) moved from about 20 in the summer of 2008 to as high as 80 in the fall. During the same period the dollar



»Volatility will come down off its peak, but it will stay much higher than during 2004-2006.«

Frank Hatheway, Senior Vice President and Head of Economic & Statistical Research, NASDAQ OMX

rose approximately 10% against the euro, oil declined approximately 72%, and the Dow Jones Industrial Average fell about 24%.

“That translated into business uncertainty because companies have to buy raw materials, sell products, and raise capital,” says Frank Hatheway, Senior Vice President and Head of Economic & Statistical Research at NASDAQ OMX. “The uncertainty, in turn, led to a freeze in economic activity in September and October.”

**TO THIS END**, recent investment decision-making has been based on emotion – fear to be exact. Traditional buy and hold investors liquidated riskier positions and fled to cash. Speculators both bought and sold aggressively depending on the latest news or rumor from around the world. These massive crosscurrents resulted in much higher trading volumes and contributed to heavy intra-day volatility.

Generally, there has been a strong correlation between exchange volumes and volatility, although it is not clear which is the cause and which the effect. Volatility may increase exchange volumes at least in the short term. Market swings prompt investors to adjust and reallocate their positions, while day traders seize opportunities to benefit from these movements. In

declining markets, selling pressure is exacerbated as exchange members liquidate the positions of clients unable to meet margin calls.

Interestingly, volatility caused buy-side traders to shy away from crossing networks. “They are highly sensitive to the possibility of looking very wrong and very stupid if they put up too much stock at the wrong price,” says TABB Group Senior Consultant Laurie Berke. “There was a need to use more caution, increased use of limits, and orders were left for a shorter period of time.”

As the equities market declined during September and October, higher implied volatility led to an increase in exchange-traded options volumes. But according to Tomas Bernholm, Head of Exchange Brokers – Derivatives Markets at NASDAQ OMX Nordic, continued high volatility could suppress volumes over the long haul. He points out that institutional investors have been the significant force behind the growth in the options market, but some firms are only allowed to take long positions. When volatility goes up, so does the price of options. Theoretically, if options become too expensive, investors will not buy them because they perceive the price of the risk is too high.

Investors who are permitted to sell options will do so when implied



**The bear market continues. It took three years for volumes to recover after the second oil shock in 1979. Similarly, it could take until the end of this decade before investors and statistical arbitrage players return to the market.**

volatility is high and they expect it to decline. However, options writers have to put up collateral against their positions. When volatility is high, so are margins, and this could potentially deter investors from opening new positions.

Similarly, increased volatility will probably lead to lower equities trading volume in the long term because investors will become risk averse and choose to remain on the sidelines until the market stabilizes. It may take a year or more to filter through, but that is the likely scenario for 2009 as we move our way through the financial crisis.

**“VOLATILITY WILL COME** down off its peak, but it will stay much higher than during 2004-2006, when the VIX was in the range of 10-12,” Hatheway predicts. “At the same time, volume will likely come down with it.”

The two bear markets at either end

of the ‘70s are the precedent for this scenario. It took three years for volumes to recover after the second oil shock in 1979. Similarly, it could take until the end of this decade before investors and statistical arbitrage players return to the market.

One lesson exchanges learned from recent experience is that they can never have too much capacity. All the US exchanges were able to handle the volume demands even as they used much of their spare capacity on high volume days. That some secondary data feeds ran slowly or went down also needs to be addressed.

The infrastructure for algorithmic trading – including the routing parameters and cancel/replace functionality – held up. “Algorithms withstood the test,” says Berke. “There’s a solid confidence now in the ability of the infrastructure to manage markets in which there is extreme volatility and volume.”

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Laurie Berke, Senior Consultant, TABB Group

Exchanges’ risk management models and clearing systems were put to the test, and they worked. “Exchanges figured out they had to increase margins early to avoid defaults, and to keep a close watch on both the members and the market, especially in illiquid stocks and instruments,” adds Bernholm.

**ANOTHER KEY** takeaway is the importance of markets staying open. Investors might not have liked the price, but they could still buy and sell equities and exchange-traded derivatives. The fact that there was liquidity provided some confidence when the credit and other markets were freezing up.

Ultimately, exchanges are among the few market players that have come away from the financial crisis relatively unscathed. The challenge going forward will be to find ways to capture revenue in the face of potentially declining volumes. ■

# Reshaping for the future

Trading venues are reviewing their business models and IT infrastructures to ensure they can compete in a post financial crisis environment.

BY HEATHER MCKENZIE

**E**xchanges are facing more competition as regulators open up national markets to new entrants. As if that is not challenging enough, stock markets ended 2008 significantly lower than the previous year. In response to these dynamics, trading venues are reviewing their business models and IT infrastructure in order to reposition themselves to succeed in the new world order.

“Stock exchanges around the world are all very dependent on the global economy, so they have all felt the effects of the financial crisis,” says Stellan Råberg, Senior Advisor at NASDAQ OMX. “However, the turmoil in the market has also increased trading volumes, somewhat balancing the negative impact of the economic downturn on exchanges’ revenues.”

Even after the financial crisis abates, equity values will likely remain modest for the foreseeable future. The pressure is on to search for new ways to compete and expand business models. More time is being taken to prepare and hone business cases for investment. IT platforms are being evaluated so they can be leveraged to cut costs through efficiency and restructuring, benchmarking and improved post-trade processes.

»We increased IT-related spending substantially in 2008 so we could meet the demands placed on the system by higher volumes and broader platform participation.«

Despite current market conditions, there are pockets of success. The BondDesk Alternative Trading System, an odd lot and retail fixed income electronic trading platform in the US, posted record results in 2008, and volumes continue to rise.

According to Peter Crosbie, Chief Executive Officer of BondDesk Group, the financial crisis affected the retail fixed income markets in two important ways. “First, there was a major inflow of new money to fixed income related products. Overall retail transaction volumes grew in excess of 50% from 2007 to 2008,” he explains. “Second, within the fixed income asset classes there was a significant shift toward lower risk asset classes.”



**Peter Crosbie, Chief Executive Officer of BondDesk Group.**

Most of BondDesk’s transactions are in the retail segment of the market. It services national and regional full service broker dealers as well as retail customers via online brokers and Registered Independent Advisors. The ATS has a significant share of odd lot trades (less than \$100,000 per

trade). Consequently, it is an excellent proxy for the broader retail US fixed income market, says Crosbie.

Market volatility and the need to react quickly to a series of unprecedented events required BondDesk to be flexible with respect to its technology priorities and to be able to closely monitor market events.

BondDesk’s IT infrastructure, along with development and technical support, is the backbone of the firm. Customer satisfaction is closely linked with performance in this area. “We aim to continuously improve our capability to meet and exceed our clients’ expectations,” says Crosbie. “To this end, we increased IT-related spending substantially in 2008 so we could meet the demands placed on the system by higher volumes and broader platform participation.”

**DURING 2008, BONDDesk** also hired NASDAQ OMX Advisory Services to perform an independent review of its data center and networking infrastructure to both certify its current strategy and determine what, if any, changes were needed to fulfill the firm’s expansion plans. “NASDAQ OMX’s ability to provide us with peer performance benchmarking and technical guidance is proving to be valuable in support of our goal of maintaining a world class IT infrastructure,” says Crosbie.

As the dust settles in the industry, other trading venues will likely undertake similar exercises. Peer performance benchmarking and technical guidance help maintain a world-class infrastructure, which is so critical to success. ■

## Market View

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