MARKET view

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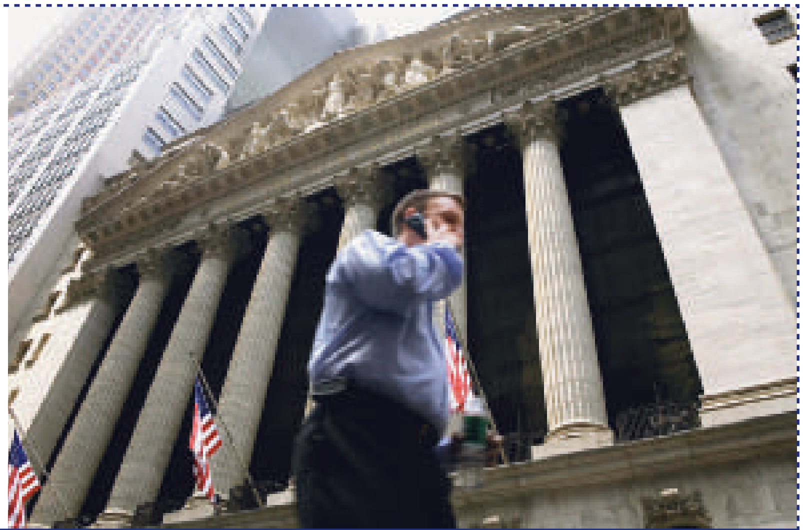
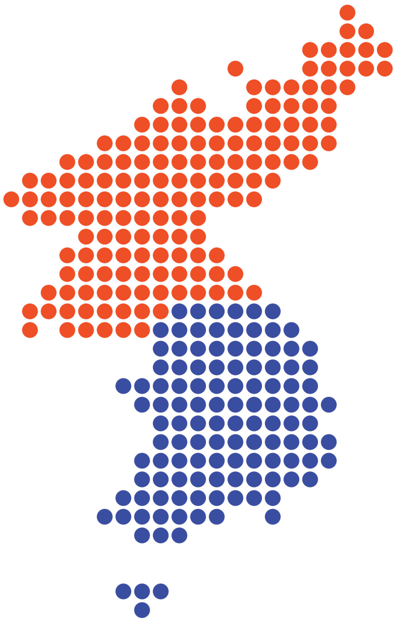
The consolidation era has just begun

The ongoing consolidation trend among marketplaces is becoming increasingly stronger. So far this year, an alliance has been formed between the Vienna and Budapest stock exchanges, NASDAQ has acquired Instinet and interest in consolidation has been reported around the London Stock Exchange. Just recently, the New York Stock Exchange (NYSE) and Archipelago announced a merger that will transform NYSE into a for-profit, publicly traded company. This is happening in the face of increased competition coupled with higher demands on returns and growth. Exchanges and other types of marketplaces are looking for expansion opportunities through mergers and acquisitions. Consolidation is being driven by the quest to increase economies of scale and reduce costs, especially among companies that have a relatively large share of fixed costs, which can be distributed over a greater number of transactions.





South Korean listing rules under review

South Korea's financial watchdog is reviewing listing rules for foreign companies wanting to list their shares on the Korea Stock Exchange. The proposed plan primarily targets companies in China and Japan. No foreign company currently lists its shares on the South Korean stock market, compared with exchanges in Singapore (96 foreign companies list shares), Japan (29) and Hong Kong (10). The plan is a part of the South Korean government's program to become the financial hub of Northeast Asia. Its target is to host 30 foreign companies on the Korean bourse by 2008.

Traditional marketplaces challenged

More advanced information and communications technology are altering securities trading in Europe. Trading floors and telephones are being used less and less frequently, and transactions are instead taking place in electronic trading platforms of stock exchanges or alternative trading systems.

According to a report from Deutsche Bank Research, alternative trading systems help investors reduce transaction costs and provide real-time execution as well as access to equity markets worldwide.

The alternative trading systems will most likely affect the traditional marketplaces in the United States. European stock exchanges are already using systems with the main advantages of alternative trading systems, such as low transaction costs and real-time execution.

Source: Deutsche Bank Research, No. 47, January 11, 2005.

Polish Power Exchange chooses CONDICO

OMX Technology and Towarowa Gielda Energii, the Polish Power Exchange, have signed an agreement regarding the CONDICO trading and clearing system, which will be used for the electricity spot and derivatives market. The agreement includes OMX setting up a green certificate register to enable trading of such certificates in the future.

"By choosing OMX to provide us with the technology solutions, we can be sure that we'll be able to meet new challenges and fully explore the opportunities," says Grzegorz Ornichimowski, CEO, Towarowa Gielda Energii.

Extended global agreement with BrokerTec

ICAP's BrokerTec unit has signed an extended three-year global agreement with OMX Technology for the license, support and hosting of its electronic trading system, based on OMX's CLICK XT trading software. The agreement includes hosting and supporting of the global network and hardware infrastructure in data centers in the United States, the United Kingdom and Sweden. In addition, OMX has delivered new efficiency enhancements to the platform.

Jay Spencer, Global Chief Information Officer, ICAP, comments: "We appreciate OMX's extensive technical expertise and solid understanding of the electronic trading arena and the global securities markets."

The technology revolution is over – long live technology

In recent decades, the emergence of common and borderless markets has increased competition in the securities business. The development and use of information technology, together with deregulation, has been the most significant driver behind this phenomenon.

Does this mean that technology, now widely spread, has had its day and become a commodity for the benefit of everyone? To a certain extent, yes. Technology is now a common asset generally understood to be an essential tool for creating efficient marketplaces. However, while the revolution is over, technology evolution will continue. To stay competitive, it is more important than ever for marketplaces and market participants to keep up with the demands and opportunities sparked by new and improved technology.

The winners will be the marketplaces that attract order flows, provide liquidity and offer the right set of value-added services. But success puts new pressure on technology as well as its suppliers and users.

What is driving the new demand?

› Cost control is still essential to remain competitive. Modern modular systems enable customized installations and step-by-step enhancements, making it possible to continuously adapt IT costs to business demand. Another way of doing this is to outsource IT operations and, in doing so, not only control costs but also increase resilience and redundancy as well as scalability.

› Certain asset classes, such as fixed-income cash and derivative products traditionally traded over the counter, would benefit from technical support that improves trading and makes execution and trade administration more efficient.

› Fast execution and automated trading support give a competitive advantage to marketplaces seeking to attract liquidity. Marketplaces need to be creative and constantly develop more efficient products. Faster adaptation to new market models, trading patterns and new instruments requires both flexible systems and suppliers with processes geared to respond to market needs.

› Regulation has and will have a huge impact on trading behavior. Complying with new regulations, such as the Financial Services Action Plan in Europe or Regulation NMS in the United States, requires functional adaptations – adaptions that marketplaces can turn into business opportunities.

The list could go on, but the conclusion is simple: Technology has not had its day but is a more important tool than ever for achieving business goals. The technology revolution is over – long live technology. ■

Klas Ståhl
President of OMX Technology

»Technology is a more important tool than ever for achieving business goals.«

PHOTO: PETER HOELSTAD

»What we set out to do was to grow the entire options trading business.«

David Krell, ISE's Chief Executive Officer

The International Securities Exchange has grown to become the largest equity options exchange in the world, based on contract trading volume. It unlocked the potential that instant electronic trading of stock options has for investors and is looking to have the same impact on other markets.

TEXT KEITH REGAN **PHOTO** PETER NORRMAN

Growing a business, expanding an industry

With technology, ISE unlocks the potential of options trading

The International Securities Exchange (ISE) recently completed one of the most successful initial public offerings in nearly four years and altered the way options are traded in the United States.

Throughout its history, ISE has succeeded by identifying inefficiencies and spotting emerging trends — and using technology to take advantage of them. After all, ISE began in 1997 as a bet that today's technology offered a far more efficient model for trading stock options than the old approach of traders huddled on physical trading floors.

By all accounts, ISE has proved this theory and then some. Its IPO had the biggest first-day gain of any such US offering since 2001, with its shares rising some 69 percent over its offer price. Its Wall Street debut was fueled by a track record of revenue and profit growth. Since 2001, ISE has grown its share of the options trading market from 8 percent to more than 30 percent.

PERHAPS EVEN MORE telling, however, is ISE's leadership position in the options trading industry. By launching the first fully electronic options exchange, ISE attracted significant liquidity from major financial institutions that had not previously participated in the equity options market as market makers. In this manner, ISE was able to capture market share from traditional floor-based options exchanges. "What we set out to do was to grow the entire options trading business. That's what our objective was," says ISE's Chief Executive Officer, David Krell. "We've realized that."

In 2004, ISE alone had an average daily trading volume that was equal to what the entire options industry was doing in 1987, writing some 1.6 million contracts daily. "There has been a very large expansion in average daily volume, and that is a result of the introduction of electronic trading and competition in the United States options market since ISE's launch in May of 2000," notes Krell.

Competition and technology meant better liquidity and tighter spreads in the options marketplace, which in turn meant more investors felt comfortable trading in the derivatives.

"We could make contributions in a number of different fields to help create fully automated, transparent markets," says Krell, who was an executive at the New York Stock Exchange (NYSE) before

»Since 2001, ISE has grown its share of the options trading market from 8 percent to more than 30 percent.«

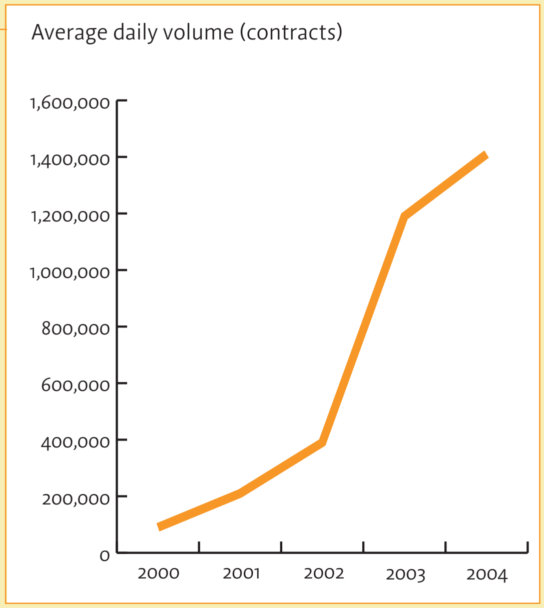
A million quotes per second

Speed and scalability were the primary considerations for the International Securities Exchange (ISE) as it decided how best to manage its trading platform.

The electronic exchange needed to offer placement and confirmation of orders in order to be competitive. Given its history of rapid growth, it needed to do even more: Between October 2003 and October 2004, ISE saw 37.5 percent growth in average daily trading volumes to 1.62 million contracts per day.

The eventual solution involved expertise from two companies with deep experience in exchange technology: the CLICK XT trading application from OMX running on a HP Alpha Server System, using HP OpenVMS software to link together com-puting clusters in different sites.

In a benchmark test in 2004, the platform reached speeds of up to 1 million stock quotes per second. The industry standard is 1 million transactions per minute. The system's multi-site cluster approach also offers protection against and rapid recovery from disasters.



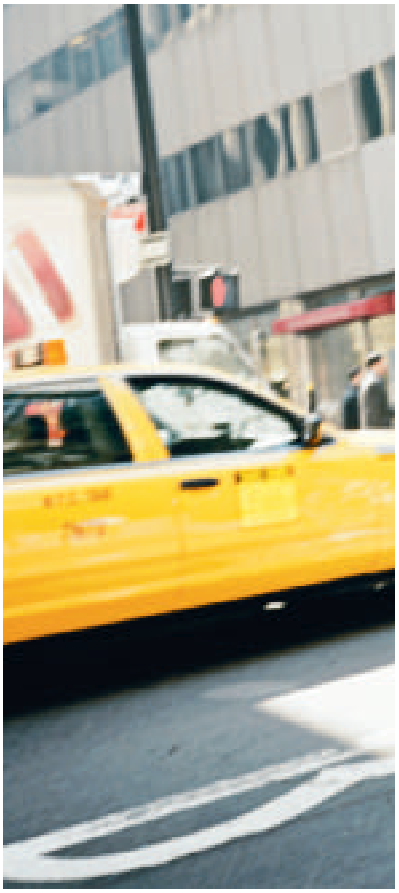
he joined ISE. "Technology was one tool, a very important one, to accomplish those objectives."

A key aspect of that technology is OMX's CLICK XT trading platform, which runs on Hewlett-Packard servers. OMX worked closely with ISE to develop a platform that would provide the speed it needed as well as provide for exponential growth, spending thousands of hours in development before the company began trading and hitting the ambitious benchmark of 1 million quotes generated per second.

THE SAME TECHNOLOGY will help enhance the platform as it continues to grow. ISE sees several areas of opportunity ahead, including growing its institutional business, enhancing its trading system, developing new products, offering a larger market data product suite and selectively pursuing strategic alliances and acquisitions. "The options industry is in the middle of an expansion right now," Krell says.

Another emerging opportunity is index options. The United States is one of few markets where individual stock options trading is more common than index options. "Today we see many of the same deficiencies in the index options market as we did five years ago in the equity options market," Krell says. "We feel we can help grow that business as well, which is why we've identified it for growth."

Underlying it all is a growing awareness among investors – individual as well as institutional – of how valuable trading options can be. "Options are flexible instruments that allow investors to do a variety of things," says Krell. "They're a way to augment returns and increase income. They can also be used to decrease risk in a portfolio, giving investors the opportunity to put a floor on potential losses. Options can also be used in a variety of market environments, whether the market is rising or declining or going sideways." ■



International Securities Exchange, Inc. is situated at 60 Broad Street, in the heart of New York City.

»Options are flexible instruments that allow investors to do a variety of things. They're a way to augment returns and increase income.«

David Krell, Chief Executive Officer, ISE

World's largest equity options exchange plans ahead

International Securities Exchanges (ISE) has performed a benchmark test of its trading system in order to plan for the future. ISE's trading volume has risen steadily since the system was introduced in 2000. ISE needed to ensure the system could handle a continuing volume increase.

The results of the benchmark show that ISE's current system can scale to 1 million quotes per second, a stunning figure considering industry-standard server systems are reaching the same amount of quotes per minute. The performance figure indicates ISE's system will not hit a bottleneck if the number of transactions continues to grow at the present rate.

The challenge: To grow the entire options trading business and to create fully automated, transparent markets.

The solution: By launching the first fully electronic options exchange, ISE attracted significant liquidity from major financial institutions. ISE's central trading system is CLICK XT from OMX Technology with HP's Reliable Transaction Router running on HP's OpenVMS and AlphaServer.

Outsourcing gains ground

Financial services firms have long been pioneers in using outsourcing to cut costs and improve business performance.

BY KEITH REGAN **ILLUSTRATION** MÅNS ADOLFSSON

In many ways, the current business outsourcing trend has its roots in financial services firms, many of whom recognized long ago that they could turn over back-office processing to third parties, reaping savings and improving efficiency along the way.

Today, amid a boom of interest in "business process outsourcing," or BPO, many market participants are weighing the gains to be made by outsourcing critical information technology processes to third parties.

But the overall business landscape remains mixed, populated with both diehard supporters and skeptics about outsourcing.

A survey by US-based Gartner Inc. found that one-fourth of the 600 businesses queried in France, Germany, Denmark, Sweden, Spain and the UK were actively using some form of outsourcing. Many are poised to expand their use of outsourcing as well, having recognized the value from earlier experiments or from following the efforts of competitors or more cutting-edge companies.

THE MAIN REASONS cited for not outsourcing among businesses was a fear of giving up control over business processes or losing in-house expertise. But most were willing to explore at least some outsourcing projects and those that dip their toes in the outsourcing pool often see benefits and look for additional opportunities, according to Lisa Stone, a Gartner Research Vice President.

Stone says the transactional nature of much of the financial services industry lends itself to outsourcing. "It's one of the industries that is more sophisticated about the topic," she says.

Outsourcing will continue to grow at a steady pace, expanding faster than other areas of IT services over the next five to 10 years, Gartner predicts. "It's not going to be an explosion," she adds. That's because of the large number of people who have to be convinced in any organization to sign on to outsourcing, which creates a longer decision-making window than with other types of projects.

THE GARTNER STUDY of European firms found that firms that have internal "sponsors," or supporters of outsourcing, are more likely to invest in such projects and that companies that attempt some limited form of outsourcing are very likely to expand what they do in the area.

In the long term, Stone sees emerging trends benefiting companies with a history of providing outsourcing over the many large IT firms that have moved into the space in recent years to replace lost services revenue. By 2007 or 2008, Stone believes, some may realize the business is no longer a winner for them. Gartner suggests that companies considering hiring an outsourcing firm consider how long it has been in the field and ask serious questions about its commitment to staying in it. "Just because a company is big or has a household name, that doesn't mean it's going to be a leader or even stay in the business for the long haul," she adds. ■

»Those that dip their toes in the outsourcing pool often see benefits and look for additional opportunities.«

Lisa Stone, Vice President, Gartner Research

A clean target

The Nord Pool carbon market

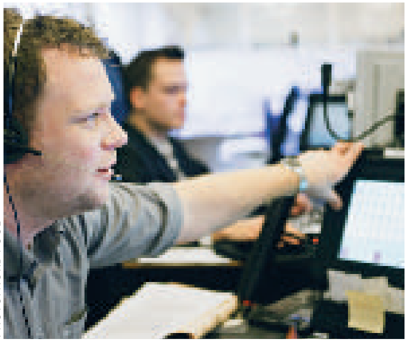


PHOTO: NORD POOL

In a market, there's no doubt that efficiency usually equals profitability. But at the Nord Pool carbon exchange, market efficiency may also help stop climate change.

TEXT ARIANE SAINS **PHOTO** MORTEN ANDERSEN

On February 16, 2005, the Kyoto Protocol, which aims to reduce levels of greenhouse emissions, took effect. In the European Union, whose member countries are all signatories to the protocol, an Emissions Trading Scheme was developed, allotting allowances for carbon dioxide emissions to 12,000 factory and power plant installations.

Under the trading scheme, those who need additional allowances can buy them from those with surplus allowances. European Commission officials have promised not to interfere in the pricing for such deals, allowing the market to set the price.

Nord Pool's carbon market opened February 11, 2005, the first exchange to offer trading in European Union Allowances (EUA). One EUA equals one ton of carbon dioxide, and the minimum trade is 1,000 tons. Since the market opened, membership has grown to 40 exchange members, who have the right to trade allowances, with turnover of EUA representing 2 million tons of carbon dioxide as of April 2005. This gives Nord Pool a 7 percent market share. In addition to market trading, the exchange offers clearing for bilateral trades.

"WE ARE ONE ELEMENT that is a part of implementing the Kyoto Protocol," says Torger Lien, President and CEO of Nord Pool. But Lien says that while he's glad that the exchange can contribute to environmental improvement, its focus is on trading. "We're a marketplace," he says. "We take care of things on the trading side, and we leave the politics to the politicians. It's important that we stay neutral."

Both Lien and Per Otto Larsen, Senior Project Manager for the carbon market, say the market will grow further as more countries set up allowance registers. The electronic registers track allowances and changes in ownership. The entire EUA system is electronic; allowances exist only online, not in any type of paper certificate. Thus far, only Denmark, Sweden, Finland and the Netherlands have their electronic registers organized. The registers list all of the allowances that have been issued, and to whom.

GROWTH IS ALSO coming as new European Union members such as Poland and the Czech Republic reach agreements with the EU on allowance levels. Since November, a Nord Pool marketing team has traveled around Europe, explaining the exchange's carbon market. "The technical, marketing and legal aspects all had to come together," Larsen says. "It's a great challenge to sell this concept." The broader the geographical spread of the exchange's members, the more attractive the market will be to traders internationally, he says.

However, in Larsen's view, Nord Pool's real competitive edge lies

The challenge: To provide an efficient marketplace for trading in carbon dioxide emission rights.

The solution: To operate the market and to allow continuous trading of emissions, Nord Pool will be using OMX's CLICK platform. In addition, Nord Pool Clearing will be relying on OMX's SECUR for the clearing of trades.

Per Otto Larsen, Senior Project Manager for the carbon market, says the market will grow further as more countries set up allowance registers.

in its long experience in handling technical trading infrastructure and in clearing trades. Quick, accurate clearing is vital for effective trading and to ensure member confidence.

Lien notes that having EDF trading as a market maker for the carbon exchange also helps provide credibility.

The carbon market offers three EUA forward contracts, with physical delivery in 2005, 2006 or 2007. Nord Pool management is considering complementing that with a spot market, which could start up in the second quarter of this year.

»We need a framework that's stable, with conditions that don't change from year to year.«

Torger Lien,
President and
CEO of Nord Pool

But Nord Pool managers will likely move cautiously. "It's uncertain how the liquidity will split between the forward market and the spot market," says Larsen. "We don't want to launch too many contracts, because you spread the liquidity too much. The market is still very immature."

Lien says the market also needs to know that there is a long-term political will to stick by the Kyoto Protocol.

The next round of allowances will be issued for the 2008-2012 period, and he believes traders and the industry need to know where the system is headed after that.

"Most industry has a timeline longer than a few years, and it can be difficult if there's uncertainty," Lien says. "We need a framework that's stable, with conditions that don't change from year to year."

The birth of an exchange
Thailand's emerging financial instruments

As Thailand's economy grows, and as the country modernizes, a need is arising for more sophisticated financial instruments.

TEXT AND PHOTO ALEXANDER FARNSWORTH

In 2004, plans were laid for three new financial markets in addition to the Stock Exchange of Thailand. They include the Market for Alternative Investment (MAI), the Bond Electronic Exchange (BEX) and the Thailand Futures Exchange (TFEX). All will be online in late 2005.

"Our intention is to attract more foreign investors to the Thai market," says Kesara Manchusree, Managing Director of TFEX. The new exchange will specialize in derivatives. "Thailand is growing and modernizing," she says. "In the capital, bond and stock markets, we need new hedging instruments to manage the returns on funds that people are increasingly investing in, such as pension funds and mutual funds. There is a real need for this."

TFEX is a wholly owned subsidiary of the Stock Exchange of Thailand and is licensed, after a fair amount of new legislation, to trade financial and commodities derivatives by the Securities and Exchange Commission. TFEX is fully sanctioned by the Thai Ministry of Finance and the Thai Parliament.

The derivatives or futures market is new to Thailand. TFEX will begin trading the SET50 index futures in November 2005 as its first product. Bond futures, equity index options and stock options are all in the pipeline.

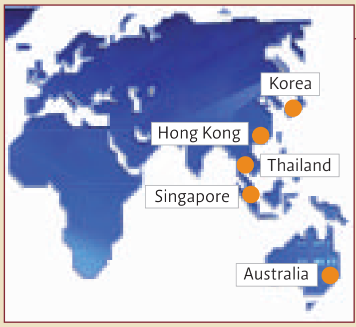
Thailand has had a stock exchange for the past 30 years, and some 400 companies are listed there today. Some of the biggest companies listed include PTT (petroleum), Siam (construction) and Thai Oil (refining). The Stock Exchange of Thailand has a market capitalization of 5 trillion Thai baht (USD 127 billion) and a daily turn-over of THB 20 billion (USD 507 billion).

So far, 15 brokers have signed up to trade on TFEX. They include JP Morgan, Credit Suisse and First Boston as well as local investment banks in Thailand.

TFEX has joined forces with the Thailand Securities Institute in launching training programs to provide investors with a better understanding of the futures exchange.

"We have to create domestic demand first before foreign investors come to us," says Chaiyoot Chamnanlertkit, Executive Vice President and Head of IT at the Stock Exchange of Thailand. ■

Kesara Manchusree (left), Managing Director of TFEX, and Chaiyoot Chamnanlertkit (right), Head of IT at the Stock Exchange of Thailand.

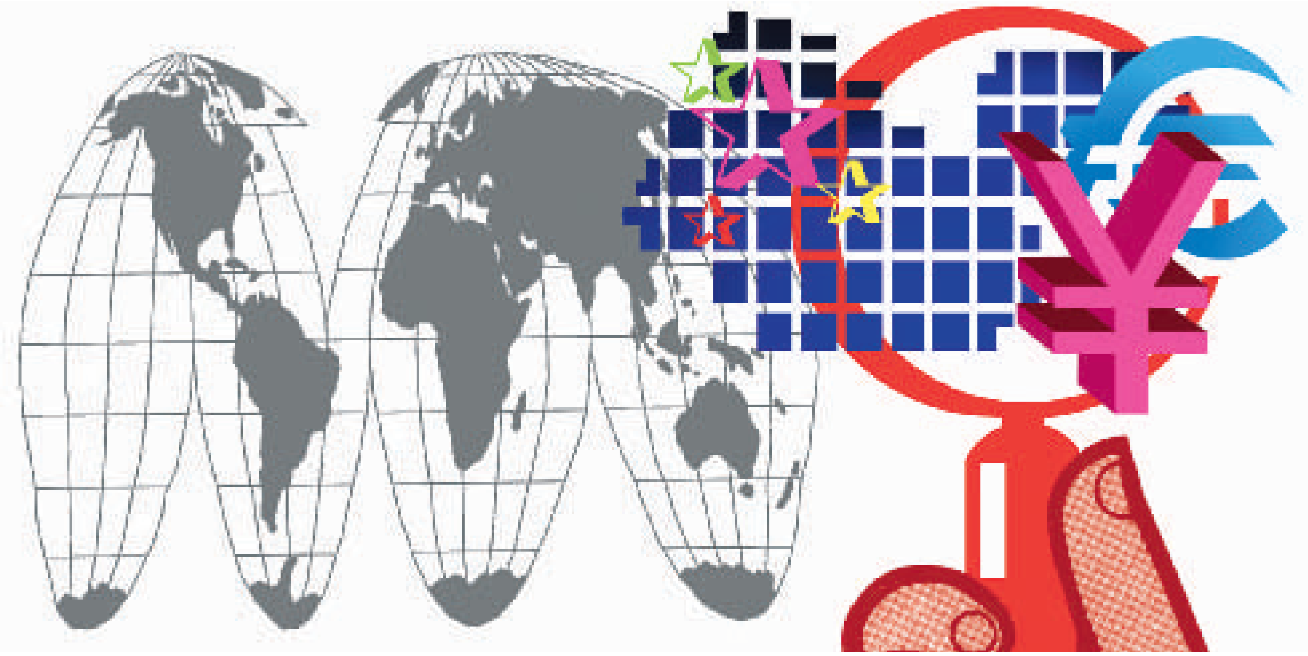


OMX systems are becoming an Asian standard

In April 2005, the Thailand Futures Exchange (TFEX) selected OMX's CLICK XT and SECUR systems to operate TFEX's trading and clearing platform for its derivatives products.

The TFEX mission is to be a world-class exchange for the trading and hedging of derivatives products. TFEX will accomplish this mission by offering an efficient, transparent and innovative infrastructure to its clients.

For OMX, this relationship means that it is becoming the Asian standard in terms of trading and clearing solutions. So far, OMX has also supplied solutions to exchanges in Australia, Hong Kong, Singapore and Korea.



Finding the bottom line

The OMX study found that classic business theories don't necessarily apply to exchanges.

A study of Asian exchanges provided information to help managers identify where their institutions could improve cost efficiency and speed time to market.

TEXT YOICHI SHIMATSU **ILLUSTRATION** MÅNS ADOLFSSON

Path-breaking research is bound to turn up some unexpected results, and such was the case with the 2004 OMX benchmarking study of Asian exchanges. Researcher Maria Groschopp, Advisor at Professional Services at OMX, says that although Europe still leads in the use of information technology, the results of the study showed that Asian exchanges were almost on par with their European counterparts.

The OMX study of a peer group of Asian exchanges, both cash and derivatives markets, was aimed at helping top managers identify where their institutions could improve cost efficiency, streamline operations and speed time to market. The data collection, conducted over the past summer, was followed by intensive discussions with bourse executives.

"Participating exchanges were provided with an analysis of and insight into the data collected, including a detailed account of the cost structure of information technology expenditures," Groschopp says. "Executives were able to see where their exchanges are performing well and where there are opportunities for improvement."

COMPARISON WITH other exchanges is important, not simply to keep up with competitors, but also to help managers take a closer look at strengths and challenges in their own operations. The benchmarking study is already bringing value to bourse management by identifying areas where clients can find new opportunities, trim redundant expenditures, improve on their IT setups and consider opening new services.

"What was so special about the OMX study is that we allowed management teams to discuss potential differences and issues, in order to identify a number of options available to them, thus triggering new ideas and possibilities."

THE OMX STUDY found that in some cases, classic business theories don't necessarily apply to exchanges, Groschopp says. She points to the issue of economies of scale. A larger volume of sales is usually considered to be more cost-effective than smaller operations, she says, but the OMX study showed the diametric opposite. "Some bigger exchanges tend to carry a higher cost per trade. The reason can be that new investments are needed when scale effects hit a roof or plateau as trading volumes increase," she says. ■

»Executives were able to see where their exchanges are performing well and where there are opportunities for improvement.«

Maria Groschopp, Advisor at Professional Services at OMX

The challenges of benchmarking

Establishing benchmarks is a challenge for the financial industry, which is involved with different financial instruments operating inside regulatory environments. Other obstacles to a common standard of business performance include differences in size of trading volume, varying types of IT systems and divergent business traditions.

Quick facts on Sheldon Natenberg

Age: 59

Current position: Director of Education, Chicago Trading Company

Personal: Married, one child

College: University of Illinois, Champaign

Recommended reading: *My Life as a Quant: Reflections on Physics and Finance*, by Emmanuel Derman

Why: An interesting take on the financial world from the perspective of a trained physicist who finds himself working on the equities derivatives trading desk at Goldman Sachs.

He wrote the book on volatility

When Sheldon Natenberg speaks, options traders listen – and learn.

TEXT KEITH REGAN **PHOTO** COURTESY OF SHELDON NATENBERG

Sheldon "Shelly" Natenberg almost didn't enter the trading world. It was at the behest of his older brother that Natenberg decided to put his mathematics degree to use in trading derivatives.

The decision has shaped far more than Natenberg's life. Through the influence of his seminal book, *Option Volatility & Pricing: Advanced Trading Strategies and Techniques*, first published in 1988, and his talks to traders around the world, Natenberg has become one of the foremost authorities on volatility and stock options trading.

Natenberg says he saw a need for a volume that bridged the gap between the purely theoretical trading talk found in textbooks and the truly practical, which often reduced ideas too far in attempts to simplify. Natenberg set out to fill that void — and by all accounts he succeeded. The book continues to sell, a testament to the nerve it struck among options traders. "They keep sending me royalty checks," Natenberg says with a laugh.

Natenberg says options trading has changed dramatically since he got involved in the 1980s. "Everybody's much more sophisticated. The business really took off and as the business expanded, people became more and more sophisticated. One big change is in the amount of knowledge that traders have."

Another is the impact of technology, which has reduced the time and expense it takes to trade options and taken out any subtle bias in the floor-trading approach. "In the pits, it's often unintentional, but if you stand next to a guy all day, you know him well, and there might be some tendency to do favors," says Natenberg. "It's not unethical; it's just the way human nature is. Computers can be completely impartial."

When he first started traveling around the world and speaking to traders, Natenberg noticed differences in trading approaches. European traders were more versed in theory, while the US traders often had better skills when it came to executing trades. But the changes have all but washed away as the global trading community has come together.

Still, wherever he goes, Natenberg has heard the same question repeatedly: How do I translate the theory in the books into the real world? Of course, there's no simple answer, which is one reason traders still hungrily devour his book. "A retail investor can basically understand what a theory says and use it as a benchmark. But professional traders need to be aware not only of where a theory applies but also the failings in the model. They have to be more exact. A 10-cent difference might not be a big deal to a retail investor, but the professional really has to get down to a much more specific level."

Natenberg's book was updated in 1994, and the changes in the industry since then might well warrant another edition. But he's probably not going to write it. "One book is enough in a lifetime," he says. ■

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