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Industry in the midst of a maelstrom

Uncertainty over reforms is not stopping a brisk trade in clearing, says **Jeremy Grant**

As delegates gather for the 2011 Futures Industry Association "Expo" in Chicago, and in Johannesburg for the World Federation of Exchanges annual meeting, there is likely to be a sense of bewildered exhaustion.

This year has seen a maelstrom develop around the business of trading, exchanges and clearing – broadly known as market structures – that is exercising even the most nimble and energetic players.

A wave of regulations from the G20 countries, covering over-the-counter (OTC) derivatives and clearing, is washing over the business, with key details still to be finalised, as US regulators decide how to implement the Dodd-Frank Wall Street Reform and Consumer Protection Act.

The industry is struggling to keep up, and regulators such as the Commodity Futures Trading Commission (CFTC) are battling to meet already delayed deadlines to complete the necessary "rule-makings".

"Keeping up with the new Dodd-Frank regulations is like drinking from a fire hose," says Gregory Mocek, former director of enforcement for the CFTC and now a partner at Cadwalader, Wickersham and Taft, a law firm.

Europe is somewhat behind as it pushes forward with equivalent reforms embedded in the European Market Infrastructure Regulation (Emir) and a new version of the Markets in Financial Instruments Directive (Mifid).

While the broad outlines of the reforms are clear, important pieces are missing, such as how the clearing houses that will handle vast swathes of OTC derivatives are to be governed and what financial membership criteria they should adopt, as well as how "swap execution facilities" (SEFs) are to be defined.

Yet this is not stopping some from moving ahead. Inter-dealer brokers are the leaders in developing electronic trading platforms in Europe. They are expected to morph into SEFs, with Tradition, GFI, Tullett Prebon and Icap recently launching live trading of interest rate swaps.

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Technology and data The future of regulation

Electronic trading platforms such as MarketAxess and Tradeweb are also gearing up. Lee Olesky, chief executive of Tradeweb, says: "Participants are starting to take the steps needed to comply with the underlying principles of market reform, even when faced with uncertain timing for implementation."

Yet there are growing concerns about a lack of harmonisation between the US and Europe, in particular regarding some of the "extraterritorial" aspects of the US rules.

Canada and Australia have signalled they may need to develop their own OTC clearing infrastructure to allow their banks an alternative to being part of big institutions in the US and Europe.

That concerns William Dudley, president of the Federal Reserve Bank of New York. "We need all national authorities to resist the temptation to favour domestic financial interests over achieving a true level playing field globally," he said in speech in September.

In Europe there is intense politicking around the derivatives and clearing elements of Emir and Mifid. The issue of injecting competition is a hot topic, after attempts by Britain to widen the scope of Emir to include exchange-traded derivatives.

Both Dodd-Frank and Emir contain provisions that would force clearing houses not to discriminate between trading venues when accepting OTC trades.

The aim is to ensure there is competition in the trading and clearing of OTC derivatives – leaving existing exchange-trade derivatives as they are.

President Barack Obama signs the Dodd-Frank Act into law. In the year since, the industry has battled to implement it AFP

The planned combination of Deutsche Börse and NYSE Euronext has helped crystallise the issue.

It is being looked on with dismay by the London Stock Exchange, which sees an opening in the debate over clearing in Emir and Mifid to challenge the "silo" integrated exchange and clearing structure at the Börse, which would be bolstered by the deal.

The result is that Europe is discussing a subject that is simply not under discussion in the US: breaking down the vertical silo in futures trading. It remains to be seen how far the LSE will get; big users of silos often like the efficiencies that single pools of liquidity bring.

Jeff Sprecher, the chief executive of ICE, the futures exchange, says it is "surprising" that consideration should be given to what would amount to fragmenting liquidity in listed derivatives at a time when regulators are concerned about the negative effects of fragmentation in the equities markets.

Meanwhile, London has become a focal point for exchange consolidation.

The attempted takeover of Australia's ASX by SGX of Singapore was blocked by Canberra, while the LSE had to abandoned a tie-up with TMX Group of Canada. A joint Nasdaq OMX-ICE attempt to break up the Börse-NYSE Euronext deal also foundered.

Benn Steil, director of international economics at the Council on Foreign Relations, the think-tank, in New York says: "First, nationalism is alive and well in many markets – certainly it has played a significant role in Australia and Canada.

"Second, the antitrust authorities in the US, UK, and EU are taking a much more critical perspective than they did in the past.

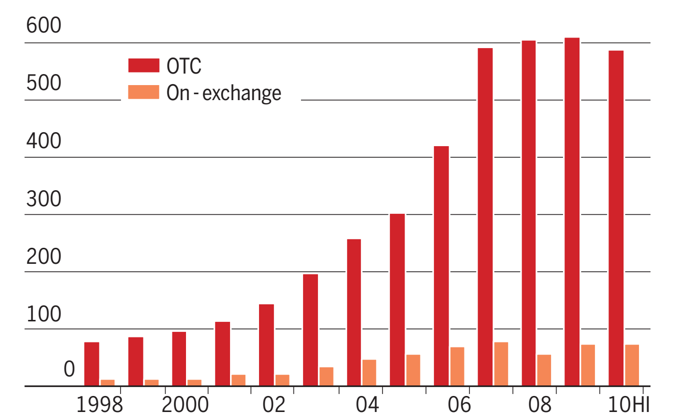
"Third, investors, who have been burnt by previous promises of magical synergies, are much more sceptical of management claims and motives."

CME Group, operator of the Chicago Mercantile Exchange, sat out the consolidation game, instead making a virtue of forging looser alliances with foreign exchanges – such as BM&FBovespa, the Brazilian exchange, Mexico's BMV bourse and the Osaka exchange – that involve cross-distribution of each other's products.

In London the LSE is bidding, with SGX as a minority partner, for LCH.Clearnet, the European clearing house. In July, ICE took a stake in Cetip, the Brazilian clearing house. Both deals highlight how post-trade businesses now may hold more promise than exchanges.

Development of global on-exchange vs OTC derivatives

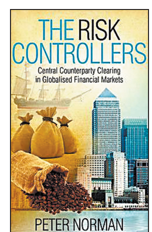
Notional amounts outstanding ($'000bn)



Notional amounts outstanding	OTC	On-exchange
1998 - 2006	**21%**	**22%**
2006 - 2010	**14%**	**6%**

Sources: Oliver Wyman; Morgan Stanley

History of 'plumbing' offers salutary lessons



The Risk Controllers: Central Counterparty Clearing in Globalised Financial Markets by Peter Norman, 400pp

John Wiley & Sons, £45

With his fondness for cigars, flowers and a pet monkey, Caesar Czarnikow cut an unusual figure in 19th century London. The German-born banker was one of a group of financiers who founded the London Produce Clearing House, the forerunner of today's LCH.Clearnet.

In those days, clearing – the essential "plumbing" that underpins equities, derivatives and bond trading – was associated in the minds of City commentators (including the Financial Times) with the "gambling" of sugar brokers such as Czarnikow.

It took two financial shocks – the stock market crash of 1987 and especially the collapse of Lehman Brothers in 2008 – to ram home that it has been a vital, if dull, pillar of the financial system.

This book, by a former FT journalist, tries to focus attention on how clearing houses could contain the seeds of the next financial dislocation – and that we should be concerned.

Combining the best of gumshoe reporting with an eye for colour, Norman displays dogged patience as he researches a subject whose dry complexity does not make it an obvious subject for a book. He travels to Le Havre to unearth the origins of modern-day clearing in the French port city's coffee markets and to Chicago for the narrative of the earliest grain clearing.

There is a gripping account of the wind-down of Lehman Brothers Europe's portfolios at LCH.Clearnet in London in the days after the bank's collapse.

One of the book's many strengths is the interweaving of the history of clearing with its relevance to the current financial crisis.

In their zeal to clean up after the 2008 crash, regulators of the G20 countries' insisted that clearing houses, or central counterparties (CCPs), take on the job of clearing vast swathes of over-the-counter (OTC) derivatives to remove the balance-sheet risk from the banks that had controlled them up to that point.

This shift is set to concentrate new risks in CCPs, since it will create systemically important institutions that could become "single points of failure".

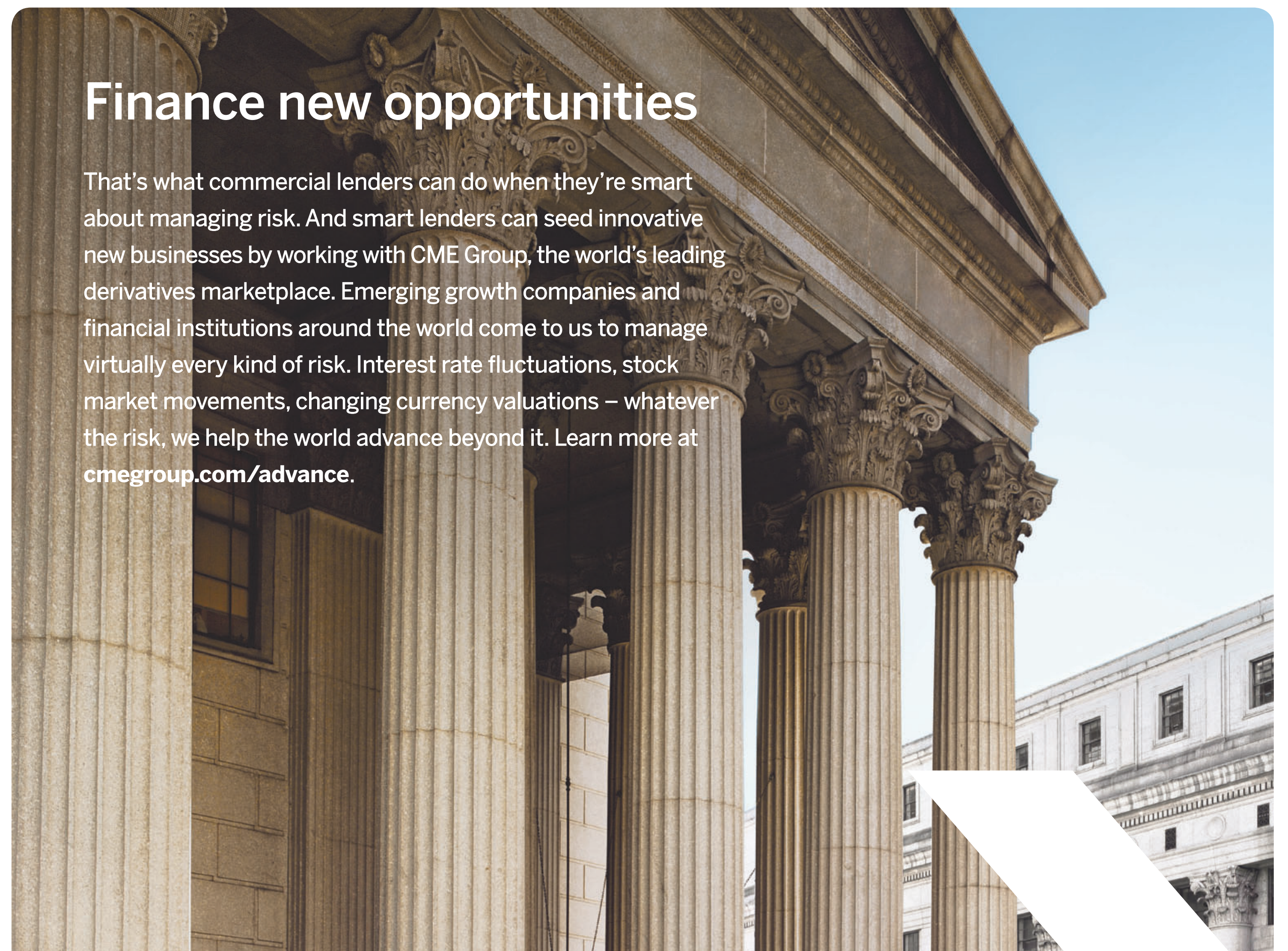
The sums of money tied up in CCPs are mind-boggling. The value of trades handled by members of LCH.Clearnet in 2010 amounted to €480bn ($639bn), equivalent to Switzerland's yearly economic output.

Yet should CCPs really be run as exchange-owned, for-profit businesses, when they are set to play such a key role as market utilities? Such questions raise the uncomfortable possibility of another taxpayer bail-out – the very outcome the post-crisis clean-up is trying to avoid.

Norman points out that CCPs have "a strong sense of commitment and responsibility to the markets that they serve" – not a quality you could pin on many traders these days.

But, as we now know from the frantic days of the Lehman default, luck has played a role in averting problems at CCPs more than once. There is no playbook for dealing with unprecedented market conditions. As the current eurozone crisis shows, unprecedented is the new normal.

Jeremy Grant



How the world advances

CME Group

Weeklys drive options volumes growth

Short contracts

A record year is in prospect but there are some concerns, says **Hal Weitzman**

When Tom Sosnoff first approached the Chicago Board Options Exchange in 2005 with the idea for weekly options, he had in mind what he thought was a terrific marketing gimmick.

"I wanted to call them 'quickies'," recalls Mr Sosnoff, who came up with the idea while running Thinkorswim, the online options brokerage he co-founded in 1999. "I thought it would be good for business, but they thought it had too many sexual overtones."

While he concedes the CBOE may have been right to reject his naming idea, contracts with a weekly duration are the raciest thing to have happened to the options industry in several years.

US regulators gave the CBOE permission to launch weeklys on stock indices in 2005, but the contracts only took off last year, when the pilot programme was extended to weekly options on individual shares and exchange traded funds.

At the same time, the stock tickers used to identify options were being overhauled, making it easier to link a weekly option with the more traditional monthly or quarterly expirations on the same underlying name.

The result has been an explosion in trading. Weekly options volumes had been growing steadily, reaching about 3 per cent of overall SPX (S&P 500 options) volumes by early 2010, but in the past year they have become the fastest-growing options product, now accounting for about one-10th of all options volumes in the US.

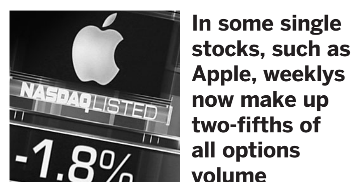
In some single stocks, such as Apple, weeklys now make up two-fifths of all options volume.

Indeed, the expansion of trading in weeklys has been a significant driver of overall options volumes, helping to put the industry on course for a record year, with 3.1bn options contracts changing hands so far, up 22 per cent on last year.

"Without weeklys, we wouldn't have had any growth at all this year," says Boris Ilyevsky, managing director of the International Securities Exchange, the US's third-biggest options-trading venue, owned by Eurex, the derivatives arm of Deutsche Börse. "In fact, we would have had a decline."

Weeklys are also proving a big hit in futures. CME Group, the US's biggest futures exchange, now lists weekly options on futures on stock indices and interest rates, as well as agricultural products such as maize, soya beans, wheat and cattle.

In the world of equity options,



In some single stocks, such as Apple, weeklys now make up two-fifths of all options volume

weeklys have proved particularly popular with retail customers. In particular, they have found favour with active, more sophisticated investors, whose strategies – such as earning premiums by selling covered calls on shares or ETFs that they intend to hold for the longer term – are an ideal fit with the accelerated "time decay" the contracts offer.

"Every week, you now have the ability to trade as if it was expiration week, and there's a lot of clients that have expiration week strategies," notes Paul Stephens, the CBOE's director of institutional and international marketing.

Many such traders have been able to profit from the growth of weeklys, by collecting more in premiums from selling calls every week rather than once a month. For traders on the buying end, weekly options offer a lower-cost, more flexible alternative to longer-dated contracts.

Because of the increase they have brought in volumes, the growth in weekly options has also been welcomed by options exchanges and brokers.

However, in spite of the signs that weekly options have brought new business, they have also cannibalised some volume from longer-dated traditional options markets.

Weeklys have also fragmented liquidity further – reinforcing a concern voiced by exchanges when the contracts were introduced. They have also added considerably to electronic bid-and-offer messages that market participants have to support with ever more processing power.

Nevertheless, the march of weeklys seems unstoppable. The programme may well be expanded from its current regime, which allows each of the US's nine options trading platforms to list 15 weekly options of its own, as well as those listed by competitors.

That begs the question of whether options contract durations could shrink further. Last year, the CBOE sought regulators' permission to list daily options, but the Securities and Exchange Commission has yet to rule. If the equity options industry introduced dailys, it would be following the futures markets: CME offers daily options on futures on crude oil, natural gas and gold.

The idea of dailys disturbs some observers, who argue they would lead to pure "directional betting" not founded on the fundamentals of the underlying asset. "If we go to dailys and hourlys and micro-events, eventually someone will get hurt – not because there's anything technically wrong, but people would get uncomfortable as it would feel and look more like gambling," says Mr Ilyevsky.

Mr Sosnoff, who now runs Tastytrade, an online financial network, is dismissive: "It's ridiculous. If it's true, then all trading is gambling. Dailys are inevitable."

Regulators and industry unsure about rules

Reforms

Uncertainty about the reach of Dodd-Frank leaves traders feeling unprepared, writes **Jeremy Grant**

Last month, two key figures involved in the regulatory overhaul of the over-the-counter (OTC) derivatives markets in the US each gave a speech – just two among many that have been delivered since the passage of the Dodd-Frank Act last year.

Conrad Voldstad, chief executive of the International Swaps and Derivatives Association (Isda) – the trade body for the derivatives market – spoke at his organisation's annual North America conference in New York.

"Isda has supported many of the reforms put forth by global regulators as they try to remove risk from the financial system. Unfortunately, some of these reforms are either very costly or may actually increase risk," he said.

He was referring to Dodd-Frank's mandate to bring greater transparency to OTC derivatives markets by requiring that standardised swaps be traded on formal trading platforms – not bilaterally between banks – and that such instruments be channelled, where possible, through clearing houses.

About a week later Gary Gensler, chairman of the Commodity Futures Trading Commission (CFTC), the US regulator charged with producing detailed rules for implementing Dodd-Frank, gave a speech at Georgetown University's McDonough School of Business.

He said the CFTC and its staff were working "day and night to put up the necessary street lamps to bring the swaps market out of the shadows, and the traffic signals to protect the public from another financial crash".

"A year after the Dodd-Frank reforms became law, there are those who might like to roll them back and put us back in the regulatory environment that led to the crisis three years ago," he continued.

The two men's comments – directed at each other, some might argue – highlight the gulf that has emerged between regulators and the industry on which it is attempting to impose new rules.

In the early stages of Dodd-Frank implementation, the memory of the 2008 crisis was sufficiently fresh – and public anger at Wall Street still raw enough – that the dealers were relatively cautious as they lobbied regulators.

But the dealer banks have become less shy about making their case as the CFTC has battled with a huge workload.

Those involved in OTC derivatives – banks, exchanges, operators of electronic trading platforms such as Tradeweb and MarketAxess – have struggled to deal with a torrent of arcane proposals, such as how to define a swap dealer, procedures for reporting OTC trades to special electronic databases and membership requirements for clearing houses.

The banks were further emboldened after the Republicans took control of the US House of Representatives late last year, giving support to those in the markets who oppose what they see as draconian regulations that could end Wall Street's hold on the OTC derivatives markets.

Mr Gensler's speech was a veiled reference to such Wall Street interests. He insists that Dodd-Frank be implemented without being watered down, because the US financial system remains interconnected through the swaps market in the US, Europe and in Asia.

It was this interconnectedness that was one of the main causes of the financial crisis of 2008, he points out, centred on the bad derivatives bets made by former insurer AIG.

Yet Isda and others argue that the CFTC and other regulators should have carried out a "cost-benefit analysis" on key aspects of Dodd-Frank before moving ahead on implementation.

Isda has even started to come up with alternatives to some key elements of the act, including – as Mr Voldstad said in his speech – floating the idea of studying a system for bilateral collateralisation of OTC trades for some non-bank market participants instead of them having to use clearing houses.

Isda believes that this might be cheaper and as effective as clearing for such participants – such as asset managers – that might otherwise be faced with what it believes could be expensive collateral requirements.

Such issues are likely only to emphasise how politicised the process of implementing Dodd-Frank has become, at a time when market participants are already dealing with another big uncertainty: the timing of when it will be completed.

Daniel Marcus, managing director of strategy and business development at Tradition, an interdealer broker, says: "The uncertainty surrounding the timing of rules implementation means that premature investment could be punished, as business cases are stressed by lack of revenue generation."

'Some of the reforms that try to remove risk are either very costly or may actually increase it'

Conrad Voldstad, Chief executive, Isda

Equally important is how Dodd-Frank will mesh with Europe's equivalent reforms, enshrined in the European Market Infrastructure Regulation (Emir) and an updated version of the 2007 Markets in Financial Instruments Directive (Mifid).

Harry Eddis, counsel at law firm Linklaters, says: "One of the main questions that dealers continue to grapple with in the move to mandatory central clearing is the extra-territorial reach of Dodd-Frank, Emir and other similar legislation and the difficulties of compliance in a global trading model."

Such regulatory uncertainties may help explain why 77 per cent of asset managers, pension funds and other so-called "buyside" firms surveyed by SimCorp, a financial software company, said they were unprepared or were not sure they had the right systems in place to support compliance with Dodd-Frank's OTC derivatives trading and clearing requirements.

Competition helps to reduce barriers

Asia

Sarah Mishkin finds markets in the region are liberalising slowly

When Chi-X, the alternative trading platform, begins dealing in Australian shares this autumn, traders will for the first time have a choice of exchanges.

The decision by regulators to allow a competitor to break the monopoly of the Australian Securities Exchange has already sparked improvements on the Sydney-based bourse.

Looking to fend off Chi-X, ASX cut its fees and is building a data centre to attract high-frequency traders, among other measures.

Traders and brokers have welcomed these improvements, which bring Australia's market structure closer to the standards of technology and cost set in the US and Europe.

Yet the entrance of Chi-X highlights one of the reasons why Asian markets have lagged behind developed markets.

Regulators in Asia – worried about the impact of new technology or inclined to protect national exchanges – have been cautious in allowing competition between trading venues. In Europe and the US, regulators have been promoting competition, most recently in Europe with the enactment of the Markets in Financial Instruments Directive in 2007.

"A huge barrier to advanced trading are the various types of regulatory barriers," says Neil Katkov, senior vice-president for Asia at Celent, the financial consultancy. "Those regulatory barriers are much more important right now than the state of infrastructure for enabling more advanced trading."

Australia had previously blocked a proposed A$8.4bn ($7.9bn) takeover of the ASX by SGX, the Singapore exchange, on the grounds that the deal was not in the nation's interest.

Exchanges, however, have not been complacent. Some have upgraded their technology and launched new products to stay competitive and resilient in volatile times.

The Tokyo Stock Exchange's launch of its Arrowhead trading platform in January last year put pressure on other exchanges to think about their trading speeds, says Ryan Holsheimer, a managing director at Bank of America Merrill Lynch.

SGX is adding co-location facilities (allowing traders to place their computer servers next to an exchange's matching engine to shave milliseconds off the time it takes for trades to be done), and in August it launched Reach, which it describes as "the world's fastest trading engine".

Asia is also the fastest growing market for listed derivatives, with 26 per cent growth last year, according to Derek Ovington, an analyst with CLSA, an Asian equity broker.

Steve Grob, director of group strategy at Fidessa, the trading technology group, says Asia's links with the raw materials boom in China and India have driven high demand for risk management tools.

Hong Kong Exchanges & Clearing (HKEx) is vocal about its need to upgrade to keep pace with developments, despite dominating equities and derivatives trading in Hong Kong.

HKEx, the world's largest stock exchange by market value, is building a data centre and launching a matching engine to ensure it is no longer a "laggard," Charles Li, the exchange's chief executive, said at a September conference.

The Hong Kong exchange is building a new data centre to fend off competition Bloomberg

The competition that HKEx seeks to fend off is not from Europe or the US. Rather, it needs to compete with Shanghai and Shenzhen to attract Chinese traders once mainland capital controls loosen, he adds.

With economies growing, the rewards for traders could be high if markets liberalise

Hong Kong's first renminbi initial public offering launched this April and the exchange sees further opportunities in trading and clearing renminbi-denominated products.

"In some ways, we don't need to introduce high-frequency trading, we just need those guys [from China] to show up," says Mr Li.

With Asian economies growing and high-frequency trading projected to slow in the US but still largely untapped in Asia, the rewards for traders could be high if markets liberalise.

Traders and brokers say they have been meeting with regulators around the region, not only to try to persuade them to allow additional competition and new types of trading, but also to learn about their concerns.

"After the 'flash crash' [in the US last year], there was a heightened awareness among regulators about what could happen in their markets," says Gabriel Butler, a director of global execution services at Bank of America Merrill Lynch.

Towards the end of last year, Hong Kong began tracking trades that crossed in dark pools (private trading venues owned by banks and brokerages), and Mr Butler says both Hong Kong and Singapore are particularly active in checking in with brokers after unusual or large movements in share prices.

India is a particular focus of brokers' interest now, says Ian Smith, a managing director on the Asia electronic execution team for Citi, the bank.

The country only recently allowed smart order routing between its two exchanges, which makes it easier for traders to choose the exchange offering the better price. But the paperwork required to register in India is still more time-consuming than in the rest of the region, says Mr Smith.

"A key challenge is the very distinct markets and regulatory environments that make up Asia, each implementing a potentially different view of what is practical, efficient and sensible for its own market," says Mr Smith.

Technology sales turn a healthy profit for US exchange

Q&A

Jeremy Grant talks to Lars Ottersgard, head of market technology at Nasdaq OMX

Your company, an exchange operator, is known as much for trading in shares and equities as for its technology business. How big is that?

Technology is about 25 per cent of our revenue, but that includes corporate solutions. When you look at selling technology to external customers, that is about 10-12 per cent of the group. This year we will make about $174m in this business, just from external technology customers.

It is growing by 5-10 per cent. This is not rapid, but it is growing and it is profitable. The key thing that we do is to run this as a business that is not cross-subsidised. It is a technology business.

We are growing in two ways. We have a large number of long-term, loyal customers.

We have about 70 customers in the exchange and clearing houses space, but we also have about 65 brokers. We have clearing technology, and settlement and depository technology.

We have now acquired Smarts [the Australian market surveillance software group], so we have world leadership in market surveillance for exchanges, brokers, regulators and compliance departments.

What are you seeing from emerging markets exchanges – is this is an Asia story or is it a Latin America story?

I think you have various levels of maturity in emerging markets.

You have the Asia story: that is a big market that is not yet as competitive.

Regulators are restricting it more than in the US and Europe, but these markets are opening up and you see more competition. Chi-X [the alternative trading platform] is coming into Japan and Australia. Change obviously generates demands for technology.

Then you have the even more emerging markets, the Middle East, Africa and Latin America, where we won our first contract in 2007 with the Colombian exchange. In the Middle East, they are upgrading because they have very old technology in most of the countries.

To what extent is this new business in these areas a case of winning contracts for the first time in exchanges? Or are you upgrading their systems?

I would not say the time when it was pure start-ups is gone, but all markets today are somehow electronic. They are at various stages of maturity. So when you upgrade in Australia, they were obviously already extremely mature and had it all. If you compare that with breaking into an emerging market, they may have quite simple systems, but there are still technologies that we are replacing.

'As an exchange, our technology will continue to be developed'

Do you come up against any resistance from these emerging exchanges? Do they talk about developing in-house technology because it gives them some control?

Yes, our biggest competitor is in-house [technology] and not only in emerging markets.

The biggest exchanges in the world have a perceived need to own technology or have the control of it. Some markets in the emerging world have that need, too.

I think many of them do understand the complexity: the ability to maintain technology in the front end, over time, is very cumbersome, very expensive, it is hard to find the competence and the resources. So they have a lot of interest in acquiring technology from us.

And of course there are also the independent software vendors who are not controlled by exchanges and who do not come with the baggage that they might become competitors down the road.

I think that, yes, there are some neutral vendors, but I think it is a very small problem. I think we have an advantage in being an exchange – that is a promise in itself that our technology will continue to be developed all the time, as we sell what we use.

If you're purely a software house, you are neutral, but where are the guarantees that you will be big enough so you can continue to invest in your technology to be always at the forefront? It's always a trade-off.

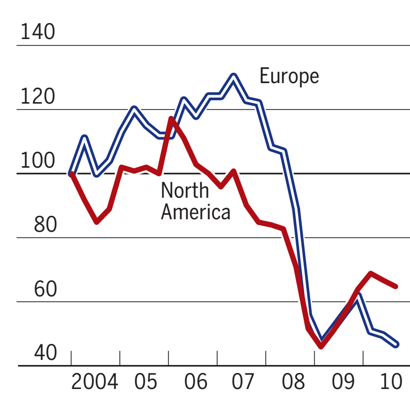
And of course regulators are worried about technology, because they see it as having gone ahead of their ability to stay on top of it.

I cannot comment on whether they are behind the curve or not, but I definitely believe that they should talk to key technology providers like us. We have a good relationship with several regulators around the world. Being the number one provider of market surveillance tools for regulators is a good way to open discussions.

Speed will not always bring a bonanza

High-frequency trading

Telis Demos and **Hal Weitzman** find there is little to be gained from an overly busy market



There is a widely held belief that the recent spike in volatility and volumes has been a bonanza for traders who move in and out of stocks, futures and currencies at microsecond speeds.

Analysts at Birinyi Associates, a stock market research firm, compared the effect of high-speed traders on high-volume days in August with holiday crowds in shopping malls.

"The noise level rises, heat and space are less available and the real purpose of the mall – to engage in commerce by selling shoes and hamburgers – is not enhanced and actually made more difficult," they wrote in a recent letter.

While there were no serious disruptions reported at exchanges during record-volume trading days, regulators in the US and UK have in recent weeks announced fresh efforts to investigate the role of high-speed dealing in extraordinary volatility.

"Those types of volatile days . . . form an important part of how we think about market structure issues, even if nothing bad or broken occurred," says one person close to a big securities regulator.

But conversations with market participants suggest that far from being the drivers of volatility, some high-speed traders were actually victims. Early studies also suggest that high-speed trading performed as many academic studies predicted: smoothing price moves when fundamental traders were buying and selling en masse.

This is a reflection of the fact that a number of diverse strategies are loosely defined as high-frequency trading. While some traders simply seek to ride the momentum of market volumes, others try to use models to predict where prices will move, based on historical relationships between stocks in the same industry, or between futures and stocks.

"People have been losing money by expecting things to revert to the mean, like those who expected markets to calm down after the US debt deal. That hasn't happened," says Mark Longo, a former trader who now runs The Options Insider, an educational website.

Will Mechem, managing director of Pan Alpha Trading, a securities trading and technology firm based in New York, says that "fear-driven" trading makes it difficult to rely on market models on certain days. At such times, mass selling or buying means that all stocks move in the same direction, rather than following their own fundamental logic, as they typically do.

"There are defensive models, designed to be market-neutral. On some days they are saying 'sit on the sidelines because the markets aren't making any sense'," he says.

Henri Waelbroeck, director of research at Pipeline Trading, which operates a dark pool (a private trading venue owned by banks and brokerages) and sells algorithms, says that August bore no resemblance to the events of May 6 2010, when unusual trades and confusion about market data led to a sudden 6 per cent drop in share prices.

"From a microstructure viewpoint, August was full of normal days," he says.

Pipeline's algorithms predict the pattern of quotes sent to markets. Mr Waelbroeck said that his models show that high volumes amplify, but do not alter those patterns. Strategies that earned 4 basis points normally earned 8 on many days in August.

Some critics say they still saw unusual patterns in August. Nanex, a market data firm in Chicago, says that there were an unusually small number of quotes in the order book of many of the most heavily traded markets, such as instruments tracking the Standard & Poor's 500 index.

This shallowness, they say, could have caused a flash-crash event under the right conditions.

But Mr Waelbroeck says it was order-flow imbalances caused by institutional and retail investors (who were responding to the same "risk-on" or "risk-off" signals) that generated price movements, rather than large orders interacting with thin liquidity.

"What really happened here is more related to the coherence in inflows and outflows into mutual funds.

Those who needed to make withdrawals on a day everyone else did sold at a horrible price. That's the pump that feeds the high-frequency trading game," he says.

Such "real money" traders were, by outward evidence, happy to pay for the liquidity provided by market-makers. Prices offered by market-makers were not appreciably different from those demanded by traders.

This difference, measured by spreads, only rose in August on S&P 500 stocks to about 5 basis points, from just below 4 basis points in July, according to figures from Credit Suisse, the banking group.

Ben Londergan, a member of the board of the Chicago Board Options Exchange, the US options market, says that the recent period of high volatility and high trading volumes is unlikely to last long.

"Either the economy recovers, spreads tighten and volumes continue to increase, or the economy goes into a tailspin, so we'll see more volume and volatility, but at some point volumes will plunge," he says.

Regulators will investigate the role of high-speed traders Bloomberg

Making sense of a million megabytes

Profile
Nanex

Telis Demos interviews the founder of the data feed company

In the leafy Chicago suburb of Winnetka, a shingle bearing the name "Nanex" hangs on a heavy wooden door wedged between a dress shop and a religious book shop.

Up a set of stairs, Eric Scott Hunsader sits at a table behind an array of huge monitors, surrounded by the computer equipment he uses to collect raw market data from exchanges. He recompiles this into usable streams of information for his clients, typically active retail traders.

Mr Hunsader has quickly become one of the most polarising critics of US market structure, and of the algorithms and high-frequency trading strategies that are increasingly used to navigate it.

His firm has produced a stream of charts and reports illustrating what it says are dangerous and unfair changes to markets, such as the shrinking size of trades, an explosion in the number of quotes sent to exchanges and vanishing liquidity.

These articles have earned Nanex plaudits from other critics, including Themis Trading, a brokerage firm, and the blog Zerohedge – and infamy among some high-frequency trading (HFT) firms, exchanges and algorithm producers, who disagree vehemently with its conclusions.

"A lot has changed since the buttonwood tree," says Mr Hunsader, referring to the fabled site of the first trades in lower Manhattan more than 200 years ago.

"When you trade with someone face to face, you can't suddenly withdraw your quote after it's too late or pretend you didn't trade with them earlier in the day. Over time, that sort of behaviour will either get you banned, a black eye, or both," he says.

Nanex is hardly a group of technophobes. Mr Hunsader, who works with software developer Jeffrey Donovan, has been around electronic markets almost since the inception of automated trading in the mid-1980s.

He had early success with Quote.com, a dotcom era stock website for which he developed the central charting code.

He cashed out of his stock before the crash, before founding Nanex in 2000. The company is in partnership with Telvent/DTN, a technology firm that provides non-software services.

Nanex collects daily data on the billions of quotes entered across US stock and futures markets. In recent months, according to the company, this has sometimes neared one terabyte a day – that is 1m megabytes. (A floppy disk held about 1 megabyte.)

Recently, Nanex caught the attention of the markets after it produced an analysis of the May 6 2010 "flash crash" – a sudden plunge in the Dow Jones Industrial Average, followed by a quick rebound.

The company highlighted problems with market data feeds as the spark, rather than the unusually large trade volumes singled out by US authorities.

"The problems with a lot of the data that people use to study high-frequency trading is that it is either too old, because things change quickly, or uses one-second, or bigger, averages. That doesn't work when what used to be a whole day's trading plays out over 100 milliseconds," says Mr Hunsader.

'You'd think these algos could land a man on the moon. But I wouldn't trust them to run the jungle cruise at Disneyworld' – Eric Scott Hunsader

Among Nanex's most controversial claims is what Mr Hunsader says is evidence of a dangerous algorithm that is disrupting markets. Algorithms are used by asset managers and banks, not only HFT firms.

While he admits he does not know who or what might be causing the disruption, he is worried that programmers new to markets are using codes designed only to break the system, not work with it.

"From reading the glossy press releases, you'd think these complex algos could land a man on the moon. But I wouldn't trust them to run the jungle cruise at Disneyworld," he says.

Academics determine that just being swift is not risky

Research

Ajay Makan gives an overview of recent findings

For at least a year, debate has raged about high-frequency trading (HFT). Has it benefited markets, or does it pose dangers? Opinions remain divided.

There is now a substantial body of academic research into the subject. The Financial Times analysed this research in recent months and found there is strong consensus among academics that HFT improves prices available to investors and damps volatility in equity markets.

High-frequency traders use computing speed to exploit tiny movements in share prices. They account for half the equity trades in the US, a third in Europe, and are heavily involved in options and futures and foreign exchange markets.

The International Organization of Securities Commissions (Iosco), the umbrella body for the world's market regulators, has asked investors to flag up HFT strategies of "particular concern" ahead of a meeting of G20 finance ministers this month

But seven academic studies in the past two years, which employ mathematical models as well as data sets from US and European markets, suggest that when HFTs act as "market-makers", quoting prices at which they are willing to buy and sell, they offer clear benefits to investors.

In order to attract trading, market-makers compete to offer the best quotes. Each time a market-maker improves on the price offered by a rival, the spread – or difference, between the best bid and best offer price – shrinks, so investors can get a better deal.

Because HFTs update their quotes in microseconds, spreads can shrink extremely fast. A study of 120 shares on the Nasdaq, the US stock exchange, by Jonathan Brogaard, a finance PhD candidate at Northwestern University, Chicago, found that HFTs offered the best buy and sell prices available two-thirds of the time.

Rapid updating also meant that HFT quotes clustered around the best price available, increasing the number of trades that took place at near-optimum prices.

All the studies agree that market-makers only quote to trade in small quantities. In Mr Brogaard's study, HFT quotes accounted for 50 per cent of all trades, but only some 40 per cent of the dollar volume traded.

That leads to a trade-off between reduced spreads and what is technically called "book depth": the quantity of shares quoted at a particular price.

If all the quotes are for small quantities, the number of shares that can be transacted at those prices may still be small. A large order may fill many quotes, and the average execution price might be much higher than the best price on offer.

"One might worry that the narrower quoted spread simply reflects the smaller quoted quantity, casting doubt on whether liquidity actually improves," Terrence Hendershott, a professor at the University of California, Berkeley, said in a study of the New York Stock Exchange's transition to electronic market-making.

Mary Schapiro says HFTs may have to offer quotes even at times of volatility

However, his study found that a small trader "is unambiguously better off with the narrower spread" produced by HFTs, and trades beneath the average quoted depth in his sample ($71,220) "are probably better off". Only the biggest trades would end up with higher realised spreads.

A key charge against HFTs is that they increase volatility. When the Dow Jones Industrial Average suffered a "flash crash" last year, some regulators blamed HFTs.

Mary Schapiro, chairwoman of the US Securities and Exchange Commission, has suggested that in future, HFTs that employ market-making strategies in normal trading, may be required to continue offering quotes, even at times of extreme volatility.

But a study led by Andrei Kirilenko, chief economist at the Commodity Futures Trading Commission, the US regulator, found that HFTs were less likely to quit the market during the flash crash than traditional market-makers.

Since they were not designated as such, they were not obliged to keep buying as prices fell. Instead, HFTs used their speed to sell off the net positions they had acquired quickly, when panic selling began.

That may have exacerbated price falls in the short term. But once HFTs had sold off their inventory, they returned to market making activities, damping price swings, whereas traditional market-makers stayed out of the market, exacerbating them, Mr Kirilenko says.

The literature does not address potential abuses.

James Overdahl, formerly an economist at both the SEC and CFTC and now an adviser for the Principal Traders Group, a trade association for HFT firms, does not deny this possibility.

"High frequency trading is a tool that can be used for any strategy," he says. Some traders have always sought to manipulate markets, and regulators have the tools to prosecute them.

Also, many observers conflate HFT with market-making, but the two are not the same, says Mr Overdahl.

"We need to move towards an evidence-based discussion, so people can see the benefits."

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Divisions over audit trails as G20 deadline approaches

Trade repositories

Philip Stafford asks how much information is enough

Surveying the destruction that the vast but opaque over-the-counter derivatives market brought to the world's financial system, global regulators pushed for the seemingly innocuous idea of collating more data on trades.

Reforms agreed by the G20 group of nations more than two years ago highlighted the move as a key final step in the life of a transaction.

They required all standardised OTC derivatives to be traded on electronic platforms and the trades to be channelled through clearing houses. Once completed, the data were to be reported to trade repositories.

Furthermore, it would require little wholesale change. Repositories were existing blocks of the financial markets' infrastructure, serving little more than a utility role as a warehouse for details of trades. While owned by private companies, authorities would be granted access to details.

More data, went the regulators' thinking, would create an electronic "audit trail" that could flag up potential critical situations before it was too late.

But as national authorities – and supranational authorities such as the European Union – race towards the G20's end-2012 deadline, sharp divisions have emerged over how to put the policy into practice, and the questions are growing more complicated.

A progress report in April from the Financial Stability Board (FSB), which works under the Bank for International Settlements (BIS) to co-ordinate the work of national regulators at a global level, warned there was a "substantial variation" between countries over implementation.

Issues such as how many trade repositories there should be in the world, their location, regulatory access and joint technical standards have been the subject of prolonged debate.

But the dispute does not exist in a vacuum. Besides the G20-imposed deadline, the market is racing to build its own central counterparty infrastructure without these questions having been decided. Some have likened it to building the house from the roof downwards.

Some issues are slowly limping towards resolution, but others are still in limbo. The question of technical and legal standards, for example, shows some progress.

At present, there is no standard way to identify parties in financial contracts – standard practice is to assign a unique "ID" to each OTC trade that is reported to a repository.

The FSB wants to establish a universal Legal Entity Identifier through international consensus.

But central questions, such as how many repositories there should be, remain unanswered. The US, and others, have long argued that given the global nature of financial markets, there should be one repository per asset class. Why disperse data on crucial derivatives such as credit default swaps and interest rate swaps into multiple trade repositories?

The Depository Trust and Clearing Corporation (DTCC), a US post-trade group, will launch an interest rate swap data repository in London in November, and has others planned for commodities and foreign exchange.

Larry Thompson: rules regarding swap data repositories could reduce transparency

But under the pressure to comply with the G20 communiqué, many trade repositories are emerging.

Cleartrade Exchange, a Singapore-based commodities bourse, cited it as a factor behind building its own repository.

"We're waiting for the emergence of a bigger venue, but we are still some way away from that," says Richard Baker, chief executive.

Serious divergence over regulatory access has also increased.

The US Dodd-Frank Act mandates that US-based swap data repositories obtain indemnification from foreign regulators before sharing information.

The act states that a requesting party will compensate trade repositories for expenses resulting from any litigation that started as a result of the information it held.

The clause is intended to ensure the confidentiality and safety of the data in the repository.

Larry Thompson, general counsel for DTCC, comments: "The problem is that if information leaks, a foreign government could be liable. The chances of a government agreeing to that are zero."

Mr Thompson warns that without it, swap data repositories could be precluded from providing information to overseas regulators. Therefore, it would encourage them to create their own repositories, reducing, not increasing transparency.

Top-ranking US officials, such as Gary Gensler, chairman of the Commodity Futures Trading Commission, admit the indemnification clause is problematic for the US. Many are hoping Europe does not retaliate by putting a similar provision in its own post-trade reforms, the European Markets Infrastructure Regulation (Emir).

As yet, it does not appear in any drafts, but the bill is yet to be passed by the European Commission.

But a new question is emerging: exactly how much data is enough?

The report last month by the Committee on Payment and Settlement Systems and the technical committee of the International Organisation of Securities Commissions, both part of the BIS, warned that the market is at risk of being undermined by potential "data gaps" in the information warehouses that store details on trades.

More information on off-exchange trades would help in assessing systemic risk and financial stability, it said, and proposed that a global minimum set of data be reported by banks on their derivatives trades.

The "data gaps" it was concerned about included information on bilateral portfolios of OTC derivatives transactions, which extend to details on exposures, amounts posted as collateral, as well as market values of open transactions and reference data on affected parties in the event of a counterparty's default.

Mr Baker agrees that the current proposals lack definition, but argues it should be excluded from the requirements for the 2012 deadline. "Some of it is very far-reaching. It should come in the next phase," he says.

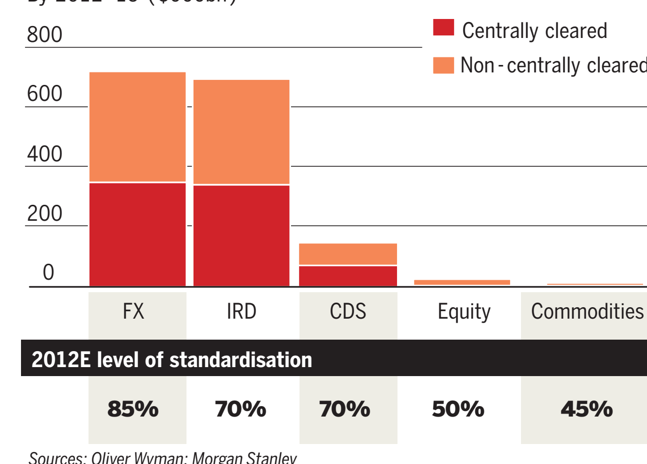
While the debate rumbles on, the clock is ticking.

Uncertainty over detail of clearing reforms

Gary Gensler: the membership of clearing houses must be open to a wide range of financial institutions Bloomberg

Forecast of centrally vs non-centrally cleared global value traded in OTC derivatives

By 2012-13 ($000bn)



	FX	IRD	CDS	Equity	Commodities
2012E level of standardisation	85%	70%	70%	50%	45%

Sources: Oliver Wyman; Morgan Stanley

Membership

Several issues remain to be finalised, writes **Jeremy Grant**

If there is one thing that has been indisputable since the G20 reforms were instigated two years ago in the wake of the collapse of Lehman Brothers, the US investment bank, it is that more use will be made of clearing, especially in the over-the-counter (OTC) derivatives markets.

But after seemingly endless work by regulators, considerable uncertainty remains as to how that should happen.

As US regulators – in particular the Commodity Futures Trading Commission (CFTC) – race to finalise rules designed to implement the Dodd-Frank Act, the complex relationships between clearing houses, their members and those members' clients – the users of OTC derivatives – have yet to be finalised.

Those issues include: the minimum financial qualifications for an entity to be a member of a clearing house; access to clearing services; whether membership should be capped to prevent big banks dominating such institutions; and how collateral – the money posted at a clearing house by members and clients – should be handled.

These issues highlight one thorny problem: how financial burdens associated with the new market structure should be shared out between clearing houses, the banks that act as intermediaries and the ultimate end-users of OTC derivatives.

That burden can be seen in estimates for the amount of extra collateral that will have to be tied up as the push for mandatory clearing is realised. Tabb Group, a consultancy, and the International Monetary Fund, have said $2,000bn extra in collateral will be needed.

A clearing house, or central counterparty (CCP), guarantees trades between two parties, using collateral deposited by market participants to ensure that deals are completed if one side defaults.

Regulators believe greater use of clearing will help safeguard the financial system against the effect of big defaults.

One issue lies in whether CCP's can arrange customer accounts in such a way that their positions can be "ringfenced" from others if another defaults. Eurex Clearing, the clearing arm of Deutsche Börse, has introduced a system known as "portability" that would allow customers to move their trades and collateral to another member of a CCP if this happens.

Another issue is the relationship between a CCP's "default fund" – the pot of money that it holds and is provided by its members – and the "initial margin" (IM) that CCPs ask customers to put up to help guarantee their daily trading.

Banks that are already members of a CCP are concerned that CCPs – especially profit-driven ones – may require members to post high levels to the default fund so that they relieve the burden on banks' customers – such as large asset managers – on the IM side.

The issue highlights the sometimes conflicting interests of CCPs, sell-side banks and their buy-side clients.

Jon Hitchon, global head of markets clearing at Deutsche Bank, says: "There is going to be a natural tension here based on the sell-side firms and what capital they tie up in the form of guarantee funds for clearing, versus the clients who are basically saying 'I don't want to have all this IM tied up which is going to be a drag on my performance'.

> 'It is tough to figure out our role in OTC clearing if we can't figure out if we can be a member of clearing houses'

"Clients will pay for whatever risk they are putting into the system."

Gary Gensler, CFTC chairman, has said that if clearing is to help promote greater transparency in the opaque OTC derivatives markets membership of CCPs must be open to a range of financial institutions to promote "fair and open access".

The CFTC has proposed that CCPs set a minimum financial threshold for membership that should not exceed $50m.

Yet the dealer banks argue that this threshold does not take account of what they say is a need to ensure clearing members have large enough balance sheets to be able to handle the wind-down of big trading positions in a default scenario.

SwapClear, the OTC interest rate swap clearing service of UK-based LCH.Clearnet, requires members to demonstrate they have a swap trading portfolio of $1,000bn.

This has angered non-bank financial institutions such as Newedge and MF Global, futures brokers that plan to offer OTC clearing services.

Gary DeWaal, group general counsel at Newedge, says: "We think clearing is better when the risk is diversified among many clearing members as opposed to few. It is tough for us to figure out our role in OTC clearing if we can't figure out if we can be a member of clearing houses. This is critical."

The CFTC is looking at CCP membership criteria as part of its implementation of Dodd-Frank and it is possible, market participants say, that the swap book requirement could be changed.

Michael Davie, SwapClear's chief executive, suggests that if any changes were made his company may have to react. "We intend to be Dodd-Frank-compliant when the rules are finalised and implemented. But any changes to the way we manage risk have to be considered carefully."

He adds: "It may be necessary to adopt other safeguards or rethink risk management processes to ensure continued protection for market participants and the clearing house in the event of a default."

Such dilemmas illustrate why, even as much clearing of OTC derivatives is already under way, there are still obstacles in the way of wholesale adoption of the process.

Profile QuantHouse trading technology group

If understanding your customers' needs is one of the keys to success, QuantHouse already enjoys an advantage over its rivals, writes **Philip Stafford**.

Emerging from a failed hedge fund seven years ago, the French trading technology group has rapidly grown in recent years to become a significant force in the cut-throat world of ultra-high-speed trading.

Like rivals Algo Technologies and Fixnetix, it is one of a handful of emerging companies that look to supply the weaponry for investors who want the cutting-edge technologies to trade in fractions of seconds, but do not want to get sucked into the spiralling cost of developing them.

The hedge fund closed in 2004, having failed to make money through statistical arbitrage – trading the difference between prices – but Pierre-François Filet, chairman and co-founder, realised the technology could be adapted.

"We had started to solve the problems before anyone else," says Mr Filet.

Another two years were spent developing it for commercial use. Mr Filet, along with co-founder Pierre Feligioni, secured backing from Fimat, which is now part of Newedge, the large global brokerage, and had its first sales in 2006.

QuantHouse initially began by providing faster market data and connectivity, taking advantage of the huge overcapacity in state-of-the-art telecommunications networks. Customers could receive prices up to five or six seconds faster than the industry's dominant players, such as Thomson Reuters and Bloomberg.

Intense competition has meant the difference between QuantHouse and rivals is now measured in microseconds, but it remains a key part of its business.

It has market data feeds from many of the world's largest exchanges, including NYSE Euronext, NYSE Liffe, the London Stock Exchange, Direct Edge, Chi-X Europe, Eurex and Nasdaq OMX.

Other technology services have been added. A long-standing partnership with Intel, the US chip group, has seen it decode more than 2m messages per second on an Intel microchip.

As a private company, it does not officially release earnings, but revenue growth is understood to be running at 60 per cent a year for each of the past three years and turnover is thought to be near €20m ($26.7m).

'We started to solve the problems before anyone else' – Pierre-François Filet

In the next 12 months, the company wants to push deeper into the European and American markets, as well as move into Asia.

Mr Filet says hiring employees to add to its current tally of 94 is a priority. With all small, ambitious technology companies, the question of capital arises, but Mr Filet says QuantHouse has secured funding for the next leg of its growth.

Newedge, the joint venture between Société Générale and Calyon, the French banks, remains a supportive 15 per cent shareholder. The founders own the majority of the shares.

The case of Fixnetix, its UK rival, hints at its longer-term future. The British group is for sale and companies of the size of Telefónica, the Spanish telecoms group, IBM, the US technology group, and the London Stock Exchange have all signalled interest.

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