Exchanges, Trading & Clearing

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Confidence shaken by violent swings

Technology may be central to building faith, explains *Philip Stafford*

Violent swings on the world's stock markets in mid-August led to inevitable searches for the culprits. For some it was risk parity funds, which aim for a diversified portfolio of stocks, bonds and currencies balanced by the mathematical risk of each asset class. They have been likened to the development of portfolio insurance, which played a crucial role in the 1987 stock market crash.

But the heavy activity, especially in the options market, also carried echoes of sharp moves in the past year in fixed income and foreign exchange markets, which were shocked respectively by spikes in US Treasury yields and the Swiss central bank's removal of its currency peg.

In the storm, order book depth and accurate pricing drained from markets. This revealed the complex relationship between humans and computers and the high-speed, interrelated method with which equities, derivatives, foreign exchange and fixed income are traded.

"First of all you have to start with the market structure," says Greg Medcraft, chairman of the International Organisation of Securities Commissions, a global body that represents market regulators from 120 jurisdictions. "For example, there's been a lack of market discipline in the past by banks in taking bonds on to their books. That doesn't build sustainable liquidity. The way to do it is to be an agent, matching buyers and sellers. They are not investor focused — it's more on what the issuer wants."

These bouts of volatility have come along with several high-profile cases of potential manipulation of markets. They have included those involving, most notably, fines for fixing the Libor lending rate and foreign exchange markets, or the charges levelled against Navinder Singh Sarao, the UK trader accused of playing a key role in the US market "flash crash" of 2010. Together they raised the issue of what constitutes fair and effective markets.

"If a market is going to work effectively, it's important that participants have trust and confidence in it," says Mr Medcraft.

For some, the answer lies in taking market activity into a centralised, electronic venue that displays quotes, in much the same way a stock exchange does. It may not root out bad behaviour but at least provides a trail for authorities to follow.

In the year's biggest deals, Bats Global Markets, the second-largest US stock exchange, made its first foray away from equities with the $365m purchase of Hotspot, a foreign exchange network, and Deutsche Börse, the German exchanges operator, paid €725m for Germany's 360T, also a foreign exchange venue.

More electronic trading also produces demands for more data, and exchanges are also looking at new revenue sources.

But despite all this there is a lingering feeling of unfinished business from the financial crisis. More than seven years after Lehman Brothers collapsed the industry is waiting for regulators to finalise rules. Europe is set to unveil its largest piece of legislation for markets, known as Mifid II, in coming weeks, and with it usher in more electronic quote-driven trading in fixed income markets. The continent is likely to begin mandatory clearing for swaps in the next eight months although it has yet to harmonise its post-crisis derivatives clearing rules, most notably with the US.

The two markets, which account for 90 per cent of the $700tn market for swaps and futures, have both put in place tough laws for their own jurisdictions but have been unable to reach agreement on common standards and oversight.

Failure to reach agreement would be "catastrophic", says Eric Litvak, chairman of the International Swaps and Derivatives Association, with many European banks likely to pull out of US clearing houses instead of being hit with punitive additional capital charges that could amount to billions.

"Cross-border issues will preoccupy the industry for the foreseeable future", says Nandini Sukumar, chief executive of the World Federation of Exchanges. "While Europe is making progress, there is still some way to go. As long as European participants are uncertain about the regulatory status of some third-country clearing houses it will hit everyone's ability to do business," she says.

Of equal concern is the effect once the rules are in place. Many are worried about the Basel banking committee's derivatives leverage ratio for banks, which forces them to hold more

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Markets planning for a world after the day of the Mifid

Europe

Implementation of the rules will be a significant headache for banks, explains *Philip Stafford*

To any bank trading executive in Europe the mere mention of an ugly five-letter acronym is enough to draw an intake of breath, and look of bewilderment in contemplation of their workload for the next 15 months.

To little fanfare in late 2007 Brussels unveiled its first bloc-wide trading regulation, known as the Markets in Financial Instruments Directive (Mifid). Intended to introduce more transparency and competition into equities trading, it carried a stipulation it would be reviewed three years on.

But then there was the financial crisis of 2008-09 and this dry technical exercise grew muscles. Banks were in the line of fire, along with the off-exchange markets they dominated and from which they derived much of their revenues. In coming months Europe will finalise that legislation. An implementation date of January 3, 2017 has been set while the rule book, which has more than 1,000 pages of technical standards alone, will be more onerous than the US Dodd-Frank act.

Most banks feel change is inevitable. "It's difficult to see how you can sustain current practices," says Damian Carolan, a London-based partner at Allen & Overy, a law firm. "I expect a lot of banks to look at each business, asset by asset, and take a view as to whether the business will still be profitable," he says.

While Mifid is all-encompassing, for now interest is focused on trades in both equities and bonds, and the reporting of trades. The original Mifid allowed banks to benefit from the old-established practice of trading large blocks of shares off-exchange, allowing some to establish their own so-called "dark pools", where deals are published after the trade has been executed. Brussels intends to introduce caps to dark pool trading. "Volume caps applying to small 'dark orders' are likely to increase the amount of larger dark trades," says Richard Semark, president UBS MTF, a European trading venue. But banks using internal trading desks to match deals also face tighter scrutiny, and banks are under pressure to move equities trades on to exchange.

Trading in some off-exchange assets, such as corporate bonds, is also likely to change as the rules introduce a category, the "Organised Trading Facility" into an already crowded field. This regulation will deem certain assets to be liquid, and force banks offering them to display prices to the market before trades are executed. As a result, lawyers and executives expect equities-like electronic auction systems will begin to compete with a dealer quoting prices on the phone.

'There will be opportunities for vendors and analytics to aggregate the data'

Already, one of the sticking points among regulators is the definition of liquidity for non-equities such as bonds. "Getting it wrong could result in higher transaction costs and reduced liquidity in the bond markets," says Peter Bevan, global head of financial regulation group, at Linklaters, the law firm.

Either way, a quote-driven system, combined with more transparency, will result in more data: in petabytes.

Trades will be timestamped — to 100 microseconds for some — while information in documents for transaction reporting is set to treble to more than 80 fields. They must also dovetail with standards in the European Market Infrastructure Regulation. All data will be physically stored, adding cost.

"There's a question as to how much they can keep on absorbing. The costs are so high and you can't absorb it in the spreads and commissions," says Steve French, director of product strategy at Traiana, a post-trade services group.

One example is the way to identify derivatives, which will have to be built from scratch. ISDA is leading an open-source standard derivatives product identification system that can used across all market infrastructure, from trading venues to clearing houses and data repositories. Banks, which have typically taken on trade and transaction reporting services for customers, are now having second thoughts.

"Sometimes it's easier to focus on one piece but there are lots of areas that require more work — issues that are not a 'big picture' item but will require a lot of implementation," says Ben Pott, head of European affairs at ICAP, the UK interdealer broker. "The amount of data will be quite overwhelming but there will be opportunities for vendors and analytics to aggregate the data."

Already the feeling is widespread that the Mifid II implementation date of January 3 2017 is unworkable, and market participants hope there will be phase-in periods, or periods of grace.

Most expect their focus in the next year to be complying with implementation dates, and weighing up whether the benefits of trading in those markets outweighs the costs of implementation. Even the bigger issues, such as the impact of Mifid on the amount of bank capital available in the market for trading, will have to be left for another time.

Confidence shaken by violent swings

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capital in the event a counterparty defaults.

The industry has called its application "flawed" and points out that customers' margin — which would count in the calculations — is already by law segregated from broking activity. Without change, banks and clearing houses warn the requirement could damage the health of the global clearing ecosystem.

"There's a difference between the bank acting as principal and the bank acting as agent," says Sunil Cutinho, head of CME Clearing. "Repo [transactions] are allowed, as secure financial transactions. We're asking for a simple extension to that. Clearing members are a very important part of the system. They facilitate access for the market."

Whether the banking regulators are willing to move is another matter. "The Financial Stability Board have reluctantly reopened the case but as to whether they act, it's 50-50," says one senior derivatives trading executive.

Beyond that, exchanges and clearing houses are mindful of interaction with a fast-changing digital world. Cyber crime is a worry but one answer might be blockchain technology, the complex marriage of computing power and finance that underpins bitcoin, the controversial cryptocurrency.

Financial products have fused with technology, notably in the electromagnetic strip on a credit card. However it cannot guarantee the user is verified. The blockchain aims to take that one stage further by automating trust.

"On the face of it, it solves a deep problem in monetary economics: how to establish trust — the essence of money — in a distributed network," said Andy Haldane, chief economist at the Bank of England, in a recent speech.

An algorithm allows a digital asset to be traded electronically without a central ledger, and its data are connected to, and verified by, previous blocks on the chain. (See article, Page 4.)

$365m Price paid by Bats Global Markets for Hotspot, the forex network

€725m The price paid by Deutsche Börse to buy Germany's 360T platform

Proponents say it could speed up slow and inefficient back office settlements, reduce the amount of collateral held up in the financial system, cut transaction costs and potentially remove middlemen - the clearing and settlement houses. For capital markets it is, as Mr Medcraft acknowledges, "a potential game changer. It could also create private markets."

Banks, exchanges and clearing houses, as well as their regulators, are busy exploring the potential impacts. Aite, a consultancy, estimates capital market spending on blockchain technology could soar from $30m last year to $400m in 2019.

The main problem with the blockchain has been trying to find a product on to which it can be harnessed, with the search exacerbated by a lack of common industry standards. As Mr Haldane noted: "Whether a variant of this technology could support central bank-issued digital currency is very much an open question."

Whether that is merely a modern version of alchemy remains to be seen. For now exchanges and regulators must use more traditional methods to build trust and iron out market imperfections.

The affluent millennials put their faith in more nimble outfits

Traders Wooing America's largest demographic is the key to financial success, writes *Lindsay Whipp*

Rachel Fox, the day trader
Valerie Macon/Getty Images

It is not often that a successful Hollywood teen actress has an alter ego as an options trader. But for Rachel Fox, who made her name in the hit television series Desperate Housewives, this is not a movie role, she really is a day trader in her spare time.

At 19, she sits at the younger edge of the millennial demographic that the Chicago-based founders of Dough — Kristi Ross and Tom Sosnoff — aim to attract with their start-up. The company, which was born out of an old hiphop studio in the capital of the US Midwest, aims to "make finance fun", through its eight hours of daily online video and highly visual proprietary trading platform for options, and soon futures.

As part of Dough's strategy to encourage the younger generation to trade options and futures and trade them safely, Ms Fox works with the four-year old company. She stars in some of their shows where she learns to trade options, enabling viewers to follow her progress as they study.

Ms Ross says by combining a trading platform with original programming that aims to educate and entertain, anyone can take the information they acquire from videos and apply it. She emphasises the company does not give advice on which trades to make: it provides information that is applicable.

Speaking at Dough's office in the trendy West Loop Chicago neighbourhood, Ms Ross says: "It's incredibly empowering and not only is it fun, it's actionable. That's the two things that were missing in the finance industry. I don't mean any harm to CNBC but you watch CNBC and you say 'well I hear that news but what do I do with my own portfolio?'"

Winning the hearts and the purse strings of the millennial generation — those between the ages of 18 and 35 — is the holy grail across the US as companies seek to understand a demographic that is digitally native and much less trusting of large institutions.

Industries across the spectrum have been upended by a shift away from the big established US brands to smaller more nimble outfits, and Ms Ross and Mr Sosnoff — both award-winning entrepreneurs — are aiming to "disrupt" their corner of the finance industry.

There is good reason for that. Millennials are now the largest demographic in the US, according to Pew Research, and Ms Ross says only a small portion trade the options markets as individual investors. "There's over $59tn that's going to transfer in wealth to the affluent millennials," says Ms Ross. "You look at that and you say that's a huge opportunity. But even better, anyone who's done the research on millennials, [knows] they are more inclined to want to do things themselves, they want to take control."

Ms Ross and Mr Sosnoff, who used to trade in the Chicago options pits, have been business partners for the past dozen years. They are industry veterans and she runs the company while he is the face and star of the online video content, which amounts to 44 programmes.

They worked together at Thinkorswim, the online options brokerage Mr Sosnoff founded in 1999, until its sale to TD Ameritrade for a reported $600m a decade later.

Ms Ross and Mr Sosnoff started the broadcasting side of the business, known as TastyTrade, in 2011 and it was combined with the trading platform, launched in January last year and partly funded by Lightbank, the venture capital firm run by Groupon co-founder Brad Keywell. TastyTrade has been profitable since 2013: the two sides of the company were combined last year and remain in the black.

'I don't mean any harm to CNBC but you watch CNBC and you say 'well I hear that news but what do I do with my own portfolio?'

Dough gets about 2m visits per month and the average time on site per view is two hours.

Accessing all the programming and the trading platform is free, so Dough makes money through advertising, one of its five apps (the rest are free), sponsors — such as the Chicago Mercantile Exchange — and a fee from TD Ameritrade, the sole broker it uses.

Dough's motto is to "trade small and trade often", to avoid investors having their funds wiped out in one move, and learn from their mistakes as they increase knowledge of options trading and preserve capital .

It recently expanded into Canada and Singapore and will soon be in China, though Ms Ross is clear the latter will need baby steps. The aim in the US is to capture 10 per cent of the 41m do-it-yourself traders.

The demographics of users are heading in the direction they want. When they started they found those older than 50 were their main users. But now 63 per cent are between 18 and 49.

"All you need is $2,000 to try this and who wouldn't invest $2,000," says Ms Ross. "Most people go to Vegas and blow that in one weekend."

Excitement of China tempered by weaker outlook

Hong Kong

Links with mainland produce opportunities but poor performance, explains *Jennifer Hughes*

If any exchange is treated almost exclusively as a levered bet on the market it is named for, in spite of efforts to diversify, then it is Hong Kong. Earlier this year, Hong Kong Exchanges & Clearing became the world's biggest bourse by market capitalisation as China's then-soaring stock markets led volumes to rocket in their internationally accessible neighbour.

Four months on, and what had been by late May a 70 per cent rally for the HKEx's shares has been reduced to a 6 per cent gain for the year — and CME Group has retaken the market cap crown.

Analysts, who had raised their average target price for the shares by 150 per cent by June, according to Bloomberg, have since reduced those expectations by two-fifths.

The retreat leaves the HKEx in a somewhat tricky place: the cause of its weaker outlook, namely China, is also the reason to believe the exchange still has real potential — at some point. A new three-year strategic plan from the HKEx is due early next year.

"The whole long-term bull argument for the HKEx is about connectivity with China," said Arjan van Veen, head of Credit Suisse's research for Asian Insurance and diversified financials, who reduced his price target in August. "Without clarity on the timing of more opening up — except it won't be tomorrow — then there are potentially more earnings downgrades to come."

The strongest driver of the HKEx's share performance is still its underlying market, in spite of the exchange's expansion into other fields, notably through its $2.2bn 2012 purchase of the London Metal Exchange.

About half its revenues still come from cash equity turnover in its home market, where it is aided by the fact it holds a monopoly.

Helped by interest from China, average daily cash turnover in Hong Kong stocks virtually doubled from HK$86bn in the three months to March to HK$163bn in the second quarter. But the mainland market's slide since then helped pull Hong Kong turnover down to HK$125bn in July and HK$94bn in August, according to HSBC.

Velocity — a measure of the frequency at which available shares are traded — doubled in the process, but has since slid back to long-term averages.

"As the Chinese authorities seek to lower volatility in the mainland's equity markets we expect market velocity to decline in Hong Kong in coming months," said Stephen Andrews, analyst with UBS.

Historically too, activity has often remained particularly subdued after retail-driven rallies such as that seen earlier this year. About a fifth of Hong Kong trading is conducted by such mom and pop traders, compared with about 2 per cent of the New York market.

Flagging up success: HKEx aims for a regional role

In addition to the sheer excitement engendered by China's astonishing market rally this year, investors had other reasons to believe in the HKEx's prospects. New schemes such as the Shanghai Hong Kong Stock Connect — the first direct trading link between the mainland and the outside world — suggested a new era of Chinese market liberalisation. But now, even the timing of previously well-flagged moves are fuzzy, as chief executive Charles Li admitted to the FT's Commodities retreat in Singapore in September.

"Overall, psychologically this is not the time to talk a lot about mutual market access opening," he said, referring to China's battle to stem its stock market slump.

"When you have just put out a big fire, you don't want to talk about buying a new sofa and doing a nice window dressing. You want to calm down, figure out how to clear it up and move forward."

Earlier this year, an extension of the Stock Connect to link Hong Kong with Shenzhen had been confidently expected by year-end — with the hope of a potential expansion of the current limits, or other liberalisations.

HSBC's York Pun said the lack of clarity led the bank to avoid factoring anything further into its forecasts — even though it expects new schemes to be developed.

"There is also no guarantee that more initiatives will be established," he added. "On the other hand, faster development of these initiatives could positively affect the company."

The HKEx is also hoping to expand access for mainland players to the LME and at some point, the HKEx wants to use the LME as a platform for mainland physical commodity markets.

"If China truly wants to influence and gain pricing power globally, allowing a more complete and full access is the right way to do it," Mr Li added.

He may be right, but neither he, nor HKEx's investors, have a very good idea about when it will happen.

Contributors

Philip Stafford
Editor, FT Trading Room
Nicole Bullock
US equities correspondent
Jennifer Hughes
Asia capital markets editor
Izabella Kaminska
FT Alphaville reporter
David O'Byrne
Freelance contributor
Gregory Meyer
US markets reporter
Joe Rennison
US capital markets reporter
Lindsay Whipp
Chicago correspondent
Gabriel Wildau
Shanghai correspondent

Emma Boyde and Michael Kavanagh
Commissioning editors
Steven Bird
Designer
Andy Mears
Picture Editor

For advertising details, contact:

Valerie Xiberras on +44 (0)20 7873 4037, or valerie.xiberras@ft.com, or your usual FT representative.

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Technology changes the definition of crime

Spoofing Disruptive dealing can result in a severe penalty, explains *Gregory Meyer*

Futures markets have a long, colourful history of rule-breaking. There was Anthony "Tino" DeAngelis, mastermind of the 1960s "salad oil swindle" involving futures purchased with loans backed by tanks of water with soyabean oil on top. The Hunt brothers, Nelson Bunker and William Herbert, were notorious for their 1979-80 attempt to corner the silver market. There was the floor broker — also head of the compliance-review committee at the New York Mercantile Exchange — who in 2008 pleaded guilty to making natural gas trades for customers and diverting profitable ones to himself.

As futures trading changed from raucous pits into computers, the nature of violations has changed. Regulators — and criminal prosecutors — are beginning to catch up.

In the past few years several traders been charged or faced investigations over "spoofing". The spoofer intentionally makes, then cancels, orders to create a false sense of buying or selling interest. Profits follow when others are misled into buying above the real market price, or selling below it.

In some ways, there is nothing terribly 21st century about spoofing except the name. "It's basically shill bidding," says Michael Friedman, general counsel and chief compliance officer at Trillium, a New York-based trading and technology company.

"If you were selling pigs in the market 2,000 years ago and you had your friend or cousin offer high prices to encourage people standing next to you to pay higher prices, that's spoofing. It's a very basic concept of using fake bids to goose up prices in a negotiation."

But in other ways, spoofing is a creature of high technology. As trading moved to computers, it became faster and anonymous. Trading firms gained direct access to exchange servers and did not need brokers, Mr Friedman said. The race was on to develop technology to beat or outwit others on a trade.

When a firm's electronic strategies crossed the line into disruptive trading, initial complaints came from proprietary trading groups raising concerns about other proprietary groups, says Gary DeWaal, special counsel at Katten Muchin Rosenman and a derivatives law expert. After all, they had technology to detect unusual trading patterns.

The Hunt brothers: William Herbert (left) and Nelson Bunker — AP-Photo

CME Group, the biggest futures exchange operator, has said it took disciplinary actions against misleading trading as far back as 2002. But the emerging crackdown against spoofing really only began this decade. The reasons were both legal and technological. The Dodd-Frank financial reform law of 2010 outlawed spoofing, making it easier to bring charges against a practice that had to clear a higher legal bar of "manipulative" trading, Mr DeWaal says. The US Commodity Futures Trading Commission and the exchanges then updated their rules to ban it explicitly.

> 'We're all trying to shake it out and see exactly what it means, what trading is abusive and what's not'

Exchanges also upgraded surveillance technology. "Now there's more automated detection of this type of trading," says Mr DeWaal.

The consequences of being caught spoofing are severe. In 2013, Michael Coscia of Panther Energy Trading settled regulatory charges in the US and UK over futures spoofing and "layering", a related form of abuse. The CFTC said he and his firm used a computer algorithm designed to place a small order they did want to execute, followed by large orders on the other side of the market that pushed the market in their direction before they were cancelled.

The civil settlements did not end Mr Coscia's journey through the legal system. Little more than a year later, a federal prosecutor in Chicago brought criminal spoofing charges against Mr Coscia, the first of their kind and a shock to other traders in the freewheeling trading world. If convicted, Mr Coscia could receive a prison sentence.

This year, the US criminally charged Navinder Singh Sarao of west London with offences ranging from wire fraud to commodities manipulation over alleged spoofing in US futures, including activity in stock index futures US prosecutors say contributed to a breathtaking plunge in US equities markets on May 6 2010. He is fighting US extradition after several months' UK incarceration.

"You thought the worst that could happen if you cut this corner and cheated like this was that you were going to get suspended or fined or the firm would get fined. Now you're going to jail," says Mr Friedman.

3Red, a Chicago-based proprietary trading group, has been bracing for civil spoofing charges from CFTC and is planning to fight back, the FT has reported.

The prospect of court trials — instead of settlements — could create legal precedents. Jerry Markham, law professor at Florida International University and a former CFTC official said: "The crimes of yesteryear are being replaced by electronic systems. We're all trying to shake it out and see exactly what it means, what trading is abusive and what's not. I'm not sure we know that quite yet."

Borsa Istanbul has ambitious expansion plan beyond equities

Stock Exchange

Group aims to become regional centre by exploiting its position between Europe and Asia, says *David O'Byrne*

Perched on a ridge overlooking the Bosphorus the HQ of the Istanbul stock exchange, Borsa Istanbul, reinforces the age-old adage of Istanbul as a bridge between Europe and Asia

That is precisely the perception of itself that Borsa Istanbul seeks to cultivate, with plans to turn the fast-growing exchange into a leading regional trading platform, linked to other exchanges, and trading everything from financial products to metals, precious stones, gas and electricity.

Key to expansion are plans for partnerships and a flotation, plus agreements allowing the trading of other exchanges' products through it, and vice versa.

It's an ambitious programme for an exchange founded in 1985, but which had until recently achieved little more than organic growth.

It was Turkey's new capital market law of 2012 that set the stage for change.

That resulted in the existing Istanbul Stock exchange merging with Istanbul's gold and precious metals exchange — the third largest in the world — to create a self-regulating joint stock company Borsa Istanbul.

By 2014 the exchange was trading an annual $400m in equities, and with corporate debt issues rising from almost nothing five years earlier to a total of $30bn. This made it the seventh-largest emerging market equity exchange and the fifth largest bond market in the world based on electronic orders.

It also holds equity stakes in four other regional exchanges; the Kyrgyz Stock Exchange, the Montenegro stock exchange and the Baku and Sarajevo stock exchanges in Azerbaijan and Bosnia Herzegovina, respectively.

"Our aim is to establish a network to bring investors from different parts of the world — we want to be a bridge between these countries and between big investors from the world," says Tuncay Dinc, Borsa Istanbul chief executive. He explains that exchanges linking with Borsa Istanbul will benefit from its higher liquidity, strong regulatory framework and international visibility.

Key to this strategy are partnerships to enhance the exchange's product range and operations, and turn the exchange into a truly global operation.

In all, 42.6 per cent of the equity in Borsa Istanbul has been allocated for strategic partnerships, with another 42.75 per cent to be sold in public offerings.

Already concluded is the purchase by Nasdaq OMX of 5 per cent in Borsa Istanbul, whose markets will be traded on the same Nasdaq Genium INET platform.

An agreement has been reached for the European Bank of Reconstruction and Development (EBRD) to take a 10 per cent stake in the exchange.

"Borsa Istanbul is at the heart of Turkey's ambition to become a financial centre for the wider region," says Noel Edison, director for insurance and financial services at EBRD, explaining that as a shareholder it can boost the exchange's liquidity and help with preparations for the IPO.

Approval for the EBRD's purchase looks set to be delayed until after Turkey goes to the polls in November, after which Borsa Istanbul will apply for parliamentary approval for the IPO. With strong cross party support for the development of the exchange, any delays look likely to be procedural rather than political.

According to Mr Dinc talks are already under way with one other international exchange and two private equity groups, which could be concluded before next year's IPO.

Other non-equity agreements have already been concluded. This year Borsa Istanbul concluded a tie-up with the London Metals Exchange (LME) giving it a stake in LME's LCH.Clearnet clearing house and allowing the sale of LME traded steel billets in Turkey.

Similarly a deal with the London Stock Exchange saw the trading of Borsa Istanbul equity index products start last month on the LSE derivatives market.

Further international co-operation is planned with Dubai Multi Commodities Centre slated to allow its members to trade on Borsa Istanbul and vice versa.

Arguably the most far-reaching step taken by Borsa Istanbul is being confirmed as 30 per cent stakeholder Turkey's new EPIAS energy market, for which it is also platform operator. It took over from Turkey's power trading platform in September and plans involve spot and derivatives markets for power.

Mr Dinc points out that 30 per cent of global gas reserves are in the east and south east of Turkey. He says this gives EPIAS the chance to become a regional gas trading hub.

Bull market? Outside the Istanbul bourse — Bloomberg/Kerem Uzel

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The long and winding road to a tracking system

Regulation

Plans for a consolidated audit trail are still merely a proposal five years after they were first mooted, explains *Nicole Bullock*

On a Monday in August this year, the US stock market abruptly plummeted at the start of trading. Fears were growing over a slowdown in China spilling over into the rest of the world. However, some individual shares fell disproportionately to their fundamental value and certain exchange traded funds also moved to huge discounts to their net asset values, leaving market participants scratching their heads.

"August 24 reinforced the fact that we really don't have a good way of figuring out exactly what happened," says James Angel, a professor at Georgetown University.

However, one possible answer is already on the table. It took authorities several months to understand the flash crash of May 2010, when US stocks inexplicably see-sawed in 20 manic minutes.

In its wake, the Securities and Exchange Commission ordered its securities and options exchanges, mainly owned by the New York Stock Exchange, Nasdaq and Bats Global Markets, to come up with a consolidated audit trail (Cat) — a data warehouse for regulators to track stock orders and quotes in near real-time, from birth to completion. But, while the idea appears uncontroversial, it still remains a proposal five years on.

Even some SEC commissioners are frustrated by the delays. "In any major corporation, a project of this magnitude would have a dedicated team — probably reporting to the chief executive — with the mandate to get the job done. Unfortunately, the SEC has largely outsourced its responsibility. This has not worked," said Kara Stein, one of the commissioners, in a recent speech.

Building an audit trail is complicated: "We need to be able to reconstruct the market within three days," says Shagun Bali, a financial technology analyst at Tabb Group. "The problem is that it is such a large undertaking."

Cat would be the world's largest data repository of securities transactions. It would have to be able to process more than 58bn records of orders and quotes a day, maintain data on more than 100m customer accounts and could grow to 21 petabytes of information within the first five years. Cost estimates for the project have been hazy. The earliest SEC estimates have been moderated from $4bn. However, a presentation from the industry this year estimated annual aggregate costs for the maintenance of the Cat — for the entire industry — at between $2.8bn and $3.4bn.

Some of the world's largest data specialists, such as Google and SunGard, have tendered to operate the system. A shortlist was drawn up in July 2014, but two months ago participating vendors were asked to revise their bids.

> 'It will cost a lot of money and not increase profits or revenues by one penny'

Traditional competitors — the exchanges — are in the unlikely position of collaborating to design a system that satisfies the SEC, resulting in considerable interpretation and double checking of technical and legal issues. The participants have held more than 700 meetings relating to the Cat since July 2012.

Cost could also be a factor behind the project's slow process.

"It will cost a lot of money and not increase profits or revenues by one penny, so you have every financial incentive to delay this as much as possible," Mr Angel says.

There is also no definitive timetable for the project. "The Commission has built strong, successful data collection systems with Midas and Neat, and we continue to make progress on the consolidated audit trail system," says the SEC.

Questions remain about whether the project could provide sufficiently full answers for regulators. It would not include futures trading data, yet a regulatory report into the flash crash highlighted a large sale of stock index futures by Waddell & Reed as the key factor. Furthermore there was no mention of Navinder Singh Sarao, the British trader charged this year by the US Department of Justice with spoofing US futures markets and contributing to the day's panic.

Few expect the project will emerge in the next few years and some are looking at alternatives. Options include making Midas, an existing market data source run by the SEC, or Oats, the system run by the Financial Industry Regulatory Authority, more comprehensive.

But as the distance from the Flash Crash increases, the emotion around the Cat dies out — until the next problem.

"Everyone will want it the day after the next market disruption," Mr Angel says. "The more time we have between disruptions, the more memories fade."

Policymakers left with problem in the wake of London whale

Regulation US derivatives regulator admitted it missed the calamity, explains *Joe Rennison*

Bruno Iksil, the JPMorgan trader known as the London Whale, is an unlikely symbol of post-crisis regulatory disharmony. He briefly rose to attention as he built up a huge position trading credit default swaps in 2012, leading to a $6.2bn loss, embarrassing for the bank but perhaps more so for its regulators as it underscored the shortfalls in creating a method intended to spot risks to the financial system.

After the financial crisis, global policymakers required derivatives trades to be reported to information warehouses, to provide clear sight into the swaps market and identify and monitor risks to the financial system.

Those rules came into effect in the US in 2013 including requirements to report old trades that should have turned up a now beached Whale. Almost immediately complaints rolled in that the data collected were inconsistent and rules unclear. Emblematic of the disarray was the admission by the Commodity Futures Trading Commission, the main US derivatives regulator, that it could not pick out JPMorgan's trading calamity from the chaotic data.

At its heart was the Depository Trust & Clearing Corporation, the US post-trade group whose technology also could not cope with processing the waves of data. As Michael Bodson, chief executive of the DTCC says, all the data from Mr Iksil's case had been reported, it just was not easy to read.

"I think we were transparent and public about the fact that we struggled," says Mr Bodson, more than two years on. "We just got overwhelmed. Our technology was not up to snuff. We should take the criticism that was appropriate but it was such a mammoth task."

Such is its size, the DTCC will also be central to attempts to resolve the problem: the group already sits between vast swaths of equity, corporate bond and US government securities trades, and managing the transfer and settlement of $1,600,000bn of assets every year.

With the introduction of reporting rules in the US and Europe, it has also extended its reach: there are four repositories in the US and six in Europe. However the DTCC is by far the largest, claiming it receives data for 80 per cent of all swaps transactions.

In Europe, reporting rules came into force in February 2014, and a similar story of market confusion emerged. But part of the responsibility, Mr Bodson says, rests with watchdogs.

"There is a naïveté from some regulators. They felt pressure to get rules done but — because it's the first time they had tried this — I don't think they understood what they were asking for."

For example, derivatives users in Europe were given 90 days from the first repository registration before they had to begin reporting trades. That sounds simple. But in order to be ready, every legal entity that uses derivatives needed to obtain a unique code to identify them.

Then, for every trade, another unique code is generated so that it can be identified among the swath of transactions being reported. European regulators gave no initial guidance as to who should create identifiers or how, with responsibility falling to banks.

The challenge has been made tougher by regulators' mandating different reporting requirements. European rules dictate that both counterparties are required to report it: in the US only one need report. This means trades in Europe must be "matched" once they are reported — with each side reconciled across repositories to ensure the same trade is not counted twice. Less than a third of swaps in Europe and only 3 per cent of exchange traded derivatives could initially be matched across repositories, according to a report in Risk magazine.

JPMorgan's loss underscored the failures in spotting risks to the financial system
Michael Kappeler/AFP/Getty Images

It is a colossal job, with 100,000 entities sending about 1bn messages per month to the global repository, and Mr Bodson says progress has been made.

When both counterparties report to the same repository, reconciliations are "relatively high," the DTCC says. If two sides of a trade are reported to separate repositories, the reconciliation rate is "negligible". Other hurdles remain and responsibility, again, falls to regulators, says Mr Bodson.

The lack of harmonisation between European and US rules is a "missed opportunity", he says, driven by regulators' desire to protect citizens' data.

It has resulted in the DTCC managing three repositories worldwide, rather than one, because of privacy issues in different jurisdictions prohibiting the sharing of some countries data. US politicians are trying to unravel this.

There is also still no global standard on how trade data should be reported, leading to different file formats that need to be unbundled and standardised. International standard setters are working to harmonise the format for assigning trade identifiers.

"In hindsight, it would have been great for everyone to sit down and agree beforehand," says Mr Bodson. "I really think this is something regulators need to take on in earnest. It's for their benefit. It'll get done but it's harder than it should be."

The true test for trade reporting will come should another derivatives trading scandal emerge, when regulators will hope that this time, repositories, such as Mr Bodson's DTCC, can land the whale.

China Bold reforms take a back seat as Shanghai Index falls

Four months ago, when China's stock market was flying high, regulators and exchange officials were brimming with ambition and discussing bold reforms. Then the Shanghai Stock Exchange Composite index fell by 35 per cent in less than a month. Now the focus is back on risk control and stability, with deregulation firmly on hold.

While listed companies and their investors are pleased that the government and state-owned financial institutions have stepped in with aggressive measures to support the market, those seeking to raise new capital now face an uncertain future.

More than 550 companies were awaiting government approval to list on either the Shanghai or Shenzhen stock exchanges by mid-August. But amid the market turmoil, the regulator said it would slow the pace of initial public offerings (IPOs) to avoid siphoning demand from existing shares.

That is an abrupt reversal from earlier in the year, when regulators were not only approving IPOs at a swift clip, but also discussing how to eliminate the approval requirement altogether. The plan was to replace approval with a streamlined registration system, devolving authority from the China Securities Regulatory Commission (CSRC) to the stock exchanges.

That would move China's stock markets toward the norms of developed markets, where regulators and stock exchanges focus on ensuring accurate and complete information disclosure but let investors decide which companies can sell shares and at what price.

"Before the market turmoil, people were talking about a phase-in of the registration system by the end of this year. Now there's not much hope for that," says Zhu Ning, vice dean of the Advanced Institute of Finance at Jiaotong University in Shanghai.

For years the IPO approval system has distorted stock market valuations and encouraged corruption and rent-seeking. The limited supply of new shares means IPOs are always massively oversubscribed. That is because those lucky enough to win an allotment earn risk-free profits when shares invariably soar on their debut. First-day pops are assured because the regulator has also imposed an informal cap on price-earnings ratios at about 23 times earnings, even though market demand generally supports much higher valuations for new companies.

Yet powerful vested interests oppose the move to a registration system, including factions within the CSRC, whose authority over IPOs gives them enormous power. With the ability to determine who gets to sell shares, when, and at what price, opportunities for corruption are rife. The CSRC fired the head of its issuance bureau, Li Zhiling, in late June, saying it had handed evidence of illegal stock trading by her spouse over to police.

Industry insiders say that influential private equity (PE) funds, who often win hefty pre-IPO stakes in companies, planning to list are also opposed to a registration system. That is because PE funds — many of which are run by relatives of current or former leaders — often obtain their stakes at low valuations on the understanding that their government connections will help the company navigate the IPO approval process. A more open system for managing the flow of IPOs would remove this powerful bargaining chip.

A major casualty of the delay in moving to a registration system is a new equity board planned for the Shanghai Stock Exchange. The Strategic Emerging Industries Board was intended to host high-profile tech companies. Exchange executives have expressed the hope that the new board could lure Chinese companies listed in the US and elsewhere to repatriate, a process that had already begun during the Chinese share rally.

> 'We will establish an equity market with . . . low costs, strict regulation and multiple layers'

Alibaba's choice of the New York Stock Exchange for its record-breaking IPO last year prompted questions among financial elites who asked why China's most successful non-state-owned company was unwilling to tap capital markets at home. .

The board was intended to operate on a registration system from the beginning, with the goal of allowing a company to complete the IPO process in about six months.

The board also represents the Shanghai exchange's attempt to steal market share back from the Shenzhen Stock Exchange, whose ChiNext board has become a popular destination for tech start-ups and small companies from other next-generation industries.

"We will establish an equity market with broad coverage, multiple channels, low costs, strict regulation and multiple layers," Xiao Gang, the CSRC chairman, said in June.

"The Shanghai Stock Exchange's establishment of the strategic emerging industries board can provide a complementary development to ChiNext."

But given all that has happened, such remarks seem like a distant memory.

Analysts say that only when stability and confidence return to the markets will regulators' appetite for innovation and liberalisation gradually return.

Gabriel Wildau

A technological arms race that is forcing investors to take a punt

Smart records

***Izabella Kaminska* looks at blockchain technology and the push for greater efficiency and transparency**

Blockchain technology could represent the most radical departure from long-standing financial bookkeeping practices since Luca Pacioli formally codified the Medicis' double-entry accounting system in the 15th century, say bankers and investors.

In the process, the world of back-office systems and ledgers is being flung into the heart of a technological arms race that promises much in the way of solutions but is increasingly divided over which particular revision of the blockchain technology to bet on.

Originally devised as a computer protocol by the pseudonymous Satoshi Nakamoto to keep his decentralised cryptocurrency bitcoin faithfully in check, bankers justify their enthusiasm for blockchain by pointing to its potential to cut up to $20bn of costs from the financial sector, mostly by eliminating the clunky processes that govern payments and settlements behind the scenes.

Others say blockchain offers the means to establish a common framework for self-executing smart contracts, if not further down the line, a common network for the management of the internet of things.

"It's not intended to be a currency but an efficient way to record transactions, which is ultimately what interests us," says Nicolas Granatino, of Andurance Ventures, the VC fund associated with commodity fund manager Pierre Andurand and one of a slew of funds looking to invest in the sector. "We haven't allocated any capital yet, but are certainly looking into opportunities."

But concerns are growing that the wide variety of competing ventures coming to market, mostly at the proof of concept phase, might at this point prove a vulnerability.

Too many rival blockchains undermine one of the technology's core attributes: system interoperability and the opportunity for trade, payment or settlement reconciliation to be automated securely across extensive networks without the need of a single, centralised authority. This is especially the case for blockchains deployed into the trade and settlement sector where network effects can easily determine the success or failure of systems.

"I actually think clearing and settlement is one of the worst blockchain use cases and one that is pretty unimaginative," says Preston Byrne, chief operating officer of Eris Industries, an open-source blockchain geared towards the introduction of smart contracts, adding that blockchains are designed for deployment in high speed or volume markets.

He argues that the best use of blockchains is in marginal markets where unified clearing and settlement infrastructure doesn't currently exist.

"Using blockchains to automate debt servicing and factoring, insurance, and other labour- and verification-intensive business processes is a far more interesting proposition," Mr Byrne says.

On those grounds one of the most promising blockchain bets to date may be that of former JPMorgan banker Blythe Masters, who this year became CEO of the blockchain business Digital Asset Holdings. Her company is focused on applying blockchain technology to the relatively niche syndicated loan market, known for its extremely inefficient back-office procedures, low transaction volumes and speeds.

Not that this has stopped well known investors and institutions from piling significant resources into much more ambitious rival projects.

Visa, Nasdaq and Citi Ventures, for example, are lending support to a US start-up called Chain which aims to help exchanges such as Nasdaq enter the private share-dealing market. Duncan Niederauer, a former chief executive of the New York Stock Exchange, meanwhile, has invested in Symbiont, which is developing a platform that uses generic blockchains.

But since the ultimate aim is for the world's ledgers to speak to each other in a common language and following similar rules, some big financial names are turning to good old fashioned consortiums approaches — a quiet acknowledgment some say of blockchains inherent "winner takes all" problem.

In September, a group of nine investment banks, including Goldman Sachs, JPMorgan and Credit Suisse announced their intent to develop common standards for blockchain by way of a collective investment in a New York-based start-up called R3CEV.

For now the market remains split between three core system approaches: private blockchains such as R3CEV and DAH, known as permissioned ledgers, which make use of trusted networks; open-ended blockchains such as Ethereum, which stay faithful to bitcoin's original design but improve on the smartness of the ledger technology; and applications designed to take direct advantage of the prevailing bitcoin network.