FIA EUROPE

Derivatives

2015

Rising to new challenges

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A pause for thought

By **Steve Sparke**, chairman, FIA Europe

In the current environment, it is inevitable that the exchange-traded derivatives industry is facing a period of reflection and 'correction' as the industry assesses its future role in a reformed global market.

Costs, as has been well-documented, have gone up and are likely to continue to do so. These include the cost of regulatory compliance, implementation, infrastructure, technology and, most importantly, capital. Against the backdrop of a stagnant or falling interest rate environment we have excess capacity throughout the industry for vanilla products and a steep investment curve for integrating over-the-counter (OTC) products into the offering. As a consequence, the banks and clearing firms providing clearing services to users of derivatives are having to, at the very least, review their pricing models (upwards) and increasingly withdraw those services, either entirely or selectively, from clients that they deem no longer economically worthwhile.

One aspect, seldom discussed, is the increasing demand for very high availability of liquidity as clearing houses move closer to making real-time margin calls. These operate in a one-way fashion as clearing houses require same-day payment but do not have the infrastructure to repay margins until the following day (T+1). With clients also only paying margins on T+1 it is pretty easy to see that the major clearing futures commission merchants (FCMs) are frequently having to fill the (occasionally huge) timing gap.

The number of FCMs still in business continues to fall (as the list of those registered by the US Commodity Futures Trading Commission shows: from 187 in 2005 to 80 today). At a time when regulators across the globe are mandating a move to clearing for a range of OTC-traded products, the number of firms prepared to provide that clearing is steadily falling, leading to increased concentration among fewer players. Clearly this is an unintended consequence of the drive to make the markets safer and more robust.

Despite such concern, there are also opportunities ahead for the industry. There is a role, for example, for the specialist – whether the more narrowly focused FCM or the niche, innovative technology business. Demand for 'specialist' execution and technology offerings continues and, if anything, is growing as excess capacity and increasing costs drive the less-profitable providers out. The message is: if you specialise and play to your strengths, you will be rewarded.

On the technology front, there are opportunities to be had in fulfilling ever-increasing requirements for data reporting, risk management and real-time processing. Tools to ease the process of integrating both OTC and the listed derivatives into the same operational infrastructure and bringing a necessary element of straight-through processing into the OTC world also provide opportunities for technology providers.

> **“While no one is denying that the road ahead will be tough, further along, the horizon looks less bleak**

So, while no one is denying that the road ahead will be tough, further along, the horizon looks less bleak. The price of providing these services will correct/increase as the survivors continue to have realistic conversations with their clients. Markets will innovate, users will hedge and there will be a role for intermediaries and service providers. It will just take a little more pain before we get there! ■

A call for regulatory cohesion

By **Simon Puleston Jones**, chief executive officer, FIA Europe

With each passing year of this decade, regulation seeks to further define what the financial world will look like in 2020. The commercial future of the industry, however, is becoming less clear.

The articles in this publication tell the tale of an industry at a crossroads. The key themes that emerge are ongoing regulatory advocacy and implementation; adaptation and innovation across the market; further electronification of trading; increasing IT infrastructure demands on members; and commodities coming to the foreground in the minds of legislators. As the Financial Conduct Authority recently commented in its wholesale sector competition review, "the market appears to be in a state of flux at present."

2015 will see much action from legislators and regulators in a range of areas. A review of the European Market Infrastructure Regulation (EMIR), European and national proposals for the granular requirements and law changes driven by the Markets in Financial Instruments Directive (MiFID) II/R and the Market Abuse Directive/Market Abuse Regulation (MAD/MAR), central counterparty (CCP) recovery and resolution and benchmarks are just some of the dossiers that the industry will be grappling with over the year. Looking further ahead, the application of the Capital Requirements Directive (CRD) IV to certain non-banks from 2017 and the ring-fencing of banks in 2019 will continue to keep the industry busy.

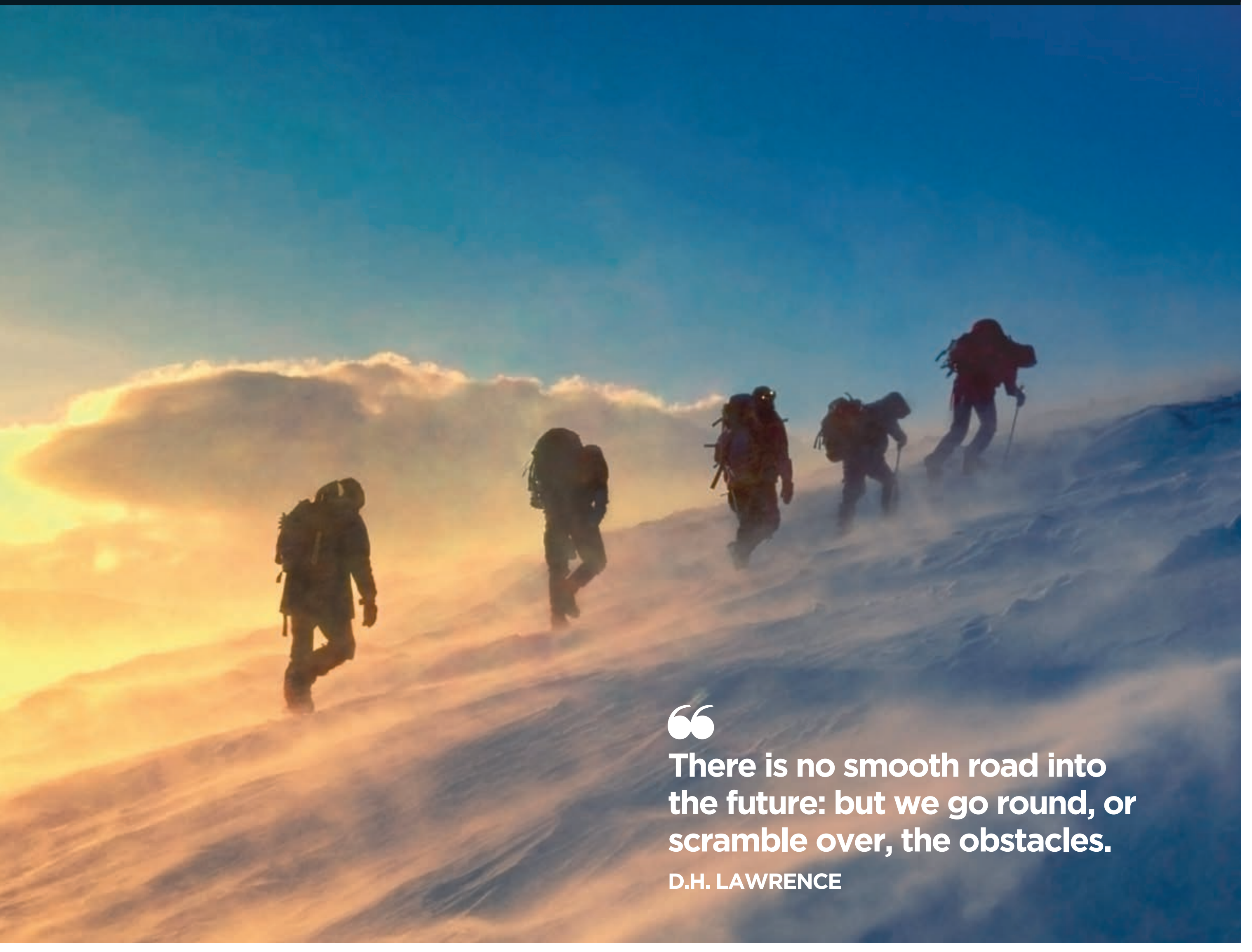
The single biggest threat to the ongoing health and viability of the cleared derivatives industry is the leverage ratio under CRD IV. Failure to recognise the exposure-reducing effect of segregated margin will substantially increase a clearing firm's total leverage exposure as calculated under CRD IV, with a corresponding increase in the amount of capital required to support client clearing activities. These increased capital requirements will lead to several distinct, but related, harmful consequences, not least increased systemic risk, decreased market liquidity, reduced clearing access, disincentives to holding excess segregated margin and more volatile investment outcomes.

Since 2004, the top 10 futures commission merchants (FCMs) have doubled the amount of customer segregated funds that they hold, from $55.5 billion (67 per cent of all customer segregated funds) to $111 billion (73 per cent of all customer segregated funds). For swaps clearing, the top 10 FCMs hold 96 per cent of customer segregated funds, while only 21 FCMs offer client clearing.

These figures starkly show the continued concentration of clearing through a small handful of very large brokers, with volumes heading inexorably upwards. At a time when exchange-traded volume has tripled over the last 10 years and mandatory swaps clearing will shortly apply in Europe, this cannot be an outcome that regulators desire from a systemic perspective, yet the direction of travel is apparent. If one or more of those top 10 FCMs exit clearing, it will put significant pressure on the clearing model envisaged by EMIR.

Part of the challenge created by the new European regulatory paradigm is the lack of a single decision-maker for regulation: EMIR, MiFID II/R, the Regulation on Energy Market Integrity and Transparency (REMIT), MAR, the Undertakings for the Collective Investment in Transferable Securities (UCITS) V Directive, the proposals for benchmarks, the Alternative Investment Fund Managers Directive (AIFMD) and CRD IV are, individually, all well-intentioned pieces of regulation that are capable of delivering countless systemic benefits. However, the current approach to impact assessments and cost/benefit analyses, which merely look at the impact of each piece of regulation on its own, is flawed.

Now that we are over halfway through the creation of this decade's new regulatory jigsaw, it is time to consider whether the pieces already produced fit together in a complementary, mutually re-enforcing way and, if not, to change them as necessary. To aid that process, FIA Europe



> There is no smooth road into the future: but we go round, or scramble over, the obstacles.
> **D.H. LAWRENCE**

and its affiliates have spent much of the first quarter of 2015 speaking to prudential and markets regulators alike around the globe, to help them understand the (often unintentional) impact that they are each having on their desired regulatory outcomes.

With all this uncertainty, what are the benefits of being a member of FIA Europe? In short, FIA Europe has four primary roles: advocacy, education, standardisation and fora. Rather than adopting a 'them and us' mentality, we see regulators as a crucial part of the industry. Over 2014, our relationship-management approach with individual regulators led to many instances of regulators approaching us directly for input or volunteering to speak to our members, rather than us having to request such opportunities.

FIA Europe is often considered by regulators to be the key industry contact point – recent examples include indirect clearing, reporting, best execution and payment-for-order-flow. By being a member, your views sit at the heart of that regulator engagement on matters of critical importance to your firm.

Through our affiliation with our sister US and Asian associations, FIA and FIA Asia, we ensure coordinated and consistent messaging on global issues such as regulatory capital and CCP recovery and resolution. We assist with the education of our members over the course of a year in a plethora of ways: through publications such as this magazine, conferences (including our Clearing in a Day conference), our free-to-attend InfoNet sessions each quarter, as well as more day-to-day engagement via participation in our working groups. Those sessions aim to increase the understanding of the industry and its regulatory backdrop for all participants, whether you are new to clearing or an industry veteran.

We also seek to standardise processes followed by the industry where our members find that desirable, such as the move to the Gregorian calendar for the UK power-trading industry. All of our working groups and events present a unique opportunity to meet and interact with your peers in the industry. Whether you wish to network, learn, educate, sell, inform, present or socialise, there is no more effective place to do that than at one of the conferences held by FIA Europe and its affiliates throughout the year and around the globe.

I hope that you find this publication an informative overview of the issues faced by the cleared derivatives industry and look forward to seeing you at one of our events over the coming year. ■

The end of the beginning

The long road of EMIR implementation began in 2014, but what else awaits the markets on this path? By **Robert Finney** and **Taïs Jost**

After the launch of European Market Infrastructure Regulation (EMIR) trade reporting in February 2014, it was hardly a time for R&R – unless you mean 'recovery and resolution'. That subject came more into focus for central counterparties (CCPs) as well as banks. And although EMIR has yet to reach its third birthday, and is not yet up on its own feet, the European Commission must write a school report by August 2015 – not just 'could do better' but specifically how it could be improved.

The Commission must address thorny issues like CCP access to central bank liquidity, systemic

Also in this section:

When published later this year, some of ESMA's guidelines are certain to cause a stir in energy and commodities markets

importance of non-financial counterparties' derivatives activity and EMIR's impact on that activity, and CCP collateral and other risk management. The Commission may be open to proposing substantial change to the regime rather than merely fine-tuning it.

It is therefore timely to reflect on EMIR implementation to date and consider what is yet to come.

Reporting

Last year opened with some of EMIR's easier demands already largely met: timely confirmation, trade reconciliation and trade compression, for example. Trade reporting had a difficult gestation and birth, and the infancy has not been without its problems either. Later in the year, the European Securities and Markets Authority (ESMA) took steps to improve the quality of the reports that were being submitted. It required trade repositories to return non-compliant reports, and published a consultation proposing changes in the regulations to add or change some data fields and the content of others.

At national level, the UK's Financial Conduct Authority is prioritising its monitoring of trade reporting compliance. So we expect reporting data quality to improve in 2015, with a reduction in unmatched trades and more participants using official Legal Entity Identifiers – these will in any event be mandatory for Markets in Financial Instruments Directive (MiFID) II/ Markets in Financial Instruments Regulation (MiFIR) transaction reporting starting in 2017. Beyond 2015 we shall see parties grappling with reporting (backloading) historical trades entered into after 16 August 2012 but no longer outstanding at 12 February 2014. These trades must be reported by 12 February 2017.

MiFID I and II

Last spring the MiFID II/MiFIR package was adopted. Most of it will apply from 3 January 2017. Meanwhile ESMA has been consulting on regulations that will flesh out the detail and last December provided technical advice to the Commission on various key issues, including the scope of certain categories of commodity derivatives that are broadened by the new directive.

This particular change will increase enormously the scope of EMIR in the commodities space. Uncertainty about that scope prompted ESMA in September to consult on the interpretation of some of these categories under the existing (2004) MiFID. Some of ESMA's interpretations (for example as to the scope of forward contracts covered) and proposed guidelines (in relation to the meaning of 'physically settled') are proving controversial, and when published later this year the guidelines are certain to cause a stir in energy and commodities markets. They will also be seen as indicating ESMA's interpretation of similar MiFID II provisions.

The debut of organised trading facilities (OTFs) as a category of MiFID II trading venue is another factor that will vastly increase the scope of EMIR. Expect record levels of trade reports. On the other hand, OTF trades in gas and power derivatives will generally be exempt (as covered under the 2011 Regulation on Wholesale Energy Market Integrity and Transparency or REMIT) and MiFID II also allows OTF-traded coal and oil derivatives to be exempt from EMIR clearing and collateral requirements and threshold calculations until 2020.

EMIR famously did not address the G20 agreement that derivatives be "traded on exchanges or electronic trading platforms, where appropriate", but this is now covered by the MiFID II package. Which contracts will be subject to this obligation will depend mainly on what trades are covered by the clearing obligation. The start of that obligation for any class of derivatives triggers a timetable to determine whether the class is sufficiently liquid to impose a trading obligation too. The first trading obligation consultations will begin in 2016.

Clearing

EU regulators, coordinating through 'colleges', have (at the time of writing) authorised 16 CCPs under EMIR, across 13 member states, and there are more to come. Authorisation triggers the CCPs' new, EMIR-compliant account models: individually segregated accounts and omnibus segregated accounts. The latter look like proving much more popular than the former – market participants still weigh costs against increased protection.

Mandatory clearing is likely to start in Q4 2015, initially limited to interest rate swaps. Although the Commission has declined to postpone the start or extend the phase-in, it has allowed extra time for frontloading – the requirement to clear trades entered into before the clearing obligation start date. ESMA is now developing the equivalent regulations for credit default swaps and non-deliverable forwards in foreign exchange. US regulators are watching European developments closely, especially in clearing: just before Christmas, a Commodity Futures Trading Commission (CFTC) subcommittee urged it to coordinate in this area.

The 'too big to fail' issue was slow to attract attention in relation to CCPs, but industry and regulators are making up for lost time. The UK recovery and resolution measures for CCPs came into effect last August, and, at a European level, we anticipate EU proposals in the second half of 2015.

> **There is hope that in 2015 the EU and the US can broker a deal and open the way to EU recognition of US CCPs**

Effective competition?

Debate continues on the EU's push to increase competition in financial markets infrastructure. EMIR provided for CCP interoperability, but only for securities. Extension to derivatives depended on a report by ESMA, due in 2014 but postponed *sine die*. Now that MiFIR has established a complex framework for access arrangements among venues and CCPs, the debate has become much more heated, even among vertically integrated infrastructure groups, some of which have threatened to focus business development outside the EU.

Collateral

The EU proposes broadly to follow the Basel Committee on Banking Supervision (BCBS) and International Organization of Securities Commissions (IOSCO) margin standards for non-centrally cleared derivatives, including the four-year phase-in timetable from December 2015. These affect financial counterparties and non-financials over the clearing threshold, although the draft regulation would allow parties to opt-out (especially of initial margin) in certain circumstances – for example, if the average aggregate gross notional amount of a party's corporate group were below a specified threshold, ultimately €8 billion. Crucially, however, all non-EU parties must post margin to EU counterparties, even if below the clearing threshold, unless a specific exemption is available.

Serious questions are being raised about the scale of margin that will be required, from individual parties and globally, and the impact on financial stability, bank lending and derivatives users' appetite for hedging.

Third country regimes

No EMIR overview would be complete without acknowledging the relationship of the EU and third country regimes. This is likely to affect how and where people trade and clear. To offer clearing services into the EU, non-EU CCPs must be recognised by ESMA, provided that the Commission has found the CCP's domestic regulatory regime is equivalent to EMIR. So far, Australia, Hong Kong, Japan and Singapore have passed this test but no 'foreign' CCP is yet recognised. Perhaps in 2015.

Politics is an ever-present factor, especially in US–EU regulators' dealings on derivatives issues, and including the question of equivalence or 'substituted compliance'. With new faces at the CFTC there is hope that in 2015 the EU and the US can broker a deal and open the way to EU recognition of US CCPs. However, Switzerland, Canada, India and South Korea also await Commission equivalence findings.

2015 could be the year regulators go beyond the high-level Operating Principles for cross-border regulation that they announced in 2013, to agree on sufficient detail to break the log jams that are restricting cross-border derivatives business. ■

Emerging themes of 2015:

Clearing, reporting and market microstructure

By Chris Leonard-Appleton, director of regulation, Thomson Reuters

2015 will be a seminal year for EMIR. Clearing of IRS and CDS contracts will be phased-in. The trade reporting rules are likely to change. Emerging rules for MiFID II will detail how market structure is likely to change in the future. And finally, the ground could be laid for EMIR II when ESMA reports on the impacts of EMIR to the market in August.

It's clear that with so many changes at hand, firms are struggling to figure out how they will continue to execute their current trading strategies in the future. In particular our clients are concerned with reporting in multiple jurisdictions, and how the new reporting and transparency requirements in MiFID II will dovetail with these existing requirements.

Clearing

The final rules for the clearing of IRS can be expected to come into force from the first half of this year. Similar rules for CDS contracts won't be far behind. However, don't expect any rules for FX NDFs in the foreseeable future; ESMA dropped its proposal for mandated clearing of NDFs in February. While it remains to be seen how this will affect expected US rules, it is clear that many institutions may have invested significant sums of money to be ready for a mandate that may not materialise.

Trade reporting

In November, ESMA issued a consultation for a change to the rules whereby certain fields will be adapted for different purposes or modified, and new fields will also be added. The new rules could come into force towards the end of the first half of the year and will necessitate workflow changes that will impact both the sell-side and the buy-side as well as non-financial entities. We also expect new rules for FX trade reporting in Asia from the middle of this year, something we are tracking closely with our delegated trade reporting service.

Market microstructure

2015 will be the year that the rule making process for MiFID II accelerates, the content of which will have wide ranging impacts on the world of derivatives and non-equity financial instruments. In the future, trading will be focused on regulated trading venues; Regulated Markets (RMs), Multilateral Trading Facilities (MTFs), Organised Trading Facilities (OTFs), or through Systematic Internalisers (SIs). Accessing liquidity will become increasingly complicated, particularly where divergences arise between the SEF regime in the US and the MTF regime in the EU where firms are conducting cross-border business. Key decisions will include whether firms need to register as SIs and which trading venues they access for the best liquidity and execution quality.

Beyond 2015

With MiFID due to be effective from January 2017, 2016 will be the year that firms need to implement change. That means by the end of 2015 they will need to know what they need to do and have secured budget to enact it.

Through all of this uncertainty will reign. If you'd like to receive Thomson Reuters regulatory webinar and email updates, please let us know: **fx.info@thomsonreuters.com**

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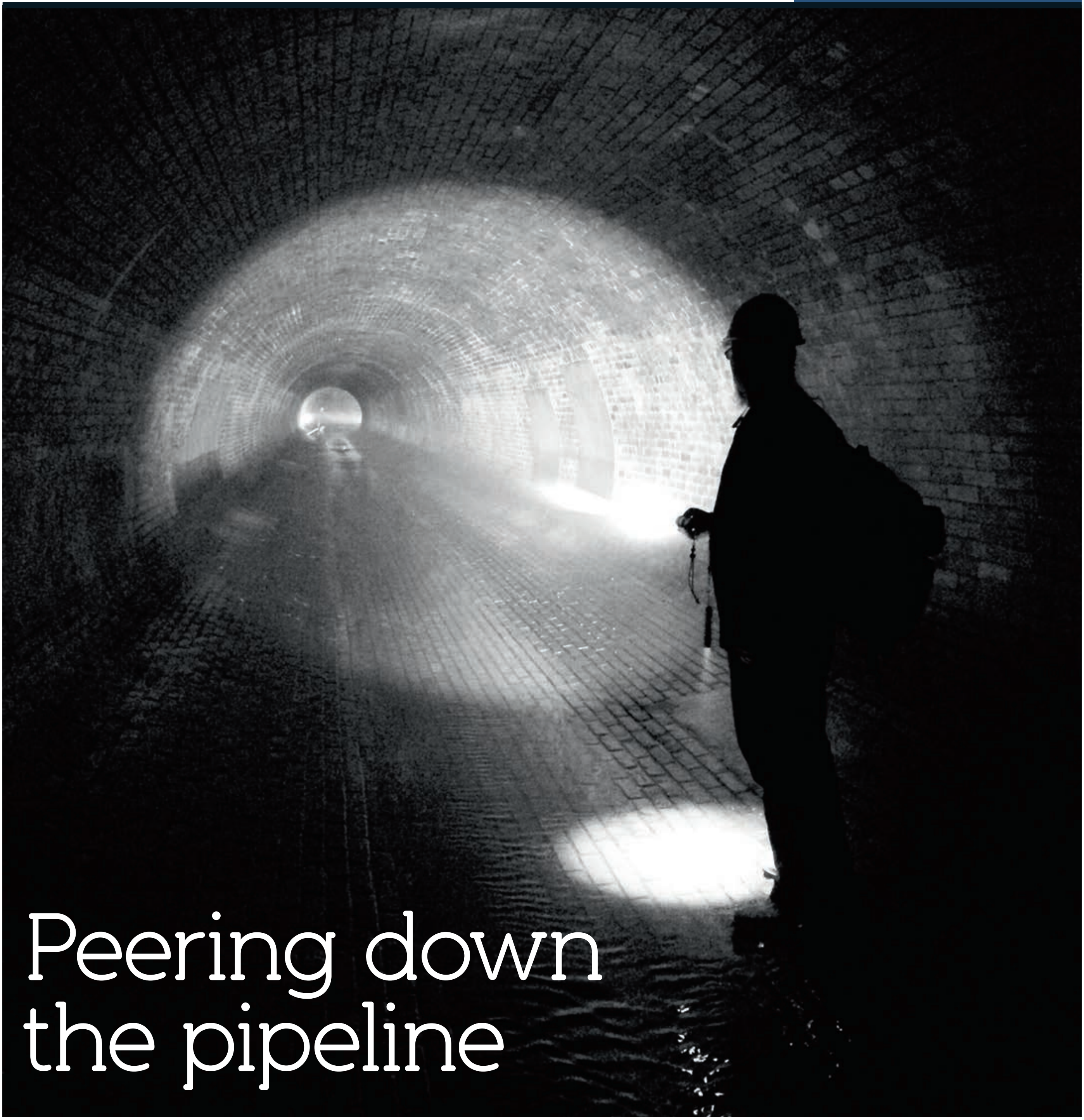


Peering down the pipeline

EMIR has been a major preoccupation for two years now, but even bigger efforts to de-risk financial markets are just over the horizon. By **Huw Jones**

Back in 2009, in response to the financial crisis, the G20 agreed an ambitious agenda to bring over-the-counter (OTC) derivatives in particular more tightly under the regulatory net. Six years on and the European Union is barely midway through the work, with full implementation of its new rules not expected for another four years.

While new EU rules on clearing and reporting of derivatives (the European Market Infrastructure Regulation or EMIR) are being rolled out – with some elements already pushed back – attention is turning to two other sets of European regulation that will have an equally important impact on derivatives: the updated Markets in Financial Instruments Directive (MiFID II) and Capital Requirements Directive (CRD). A draft EU law on recovery and resolution of clearing houses, due to be unveiled this year, could also muddy the picture and add potential new costs.

MiFID II will extend EU trading and transparency rules for shares to derivatives from January 2017. This will effectively implement a G20

agreement that standardised OTC derivatives should be traded on an electronic platform where possible, rather than handled privately. The intention is to increase transparency and reduce risk in this sector.

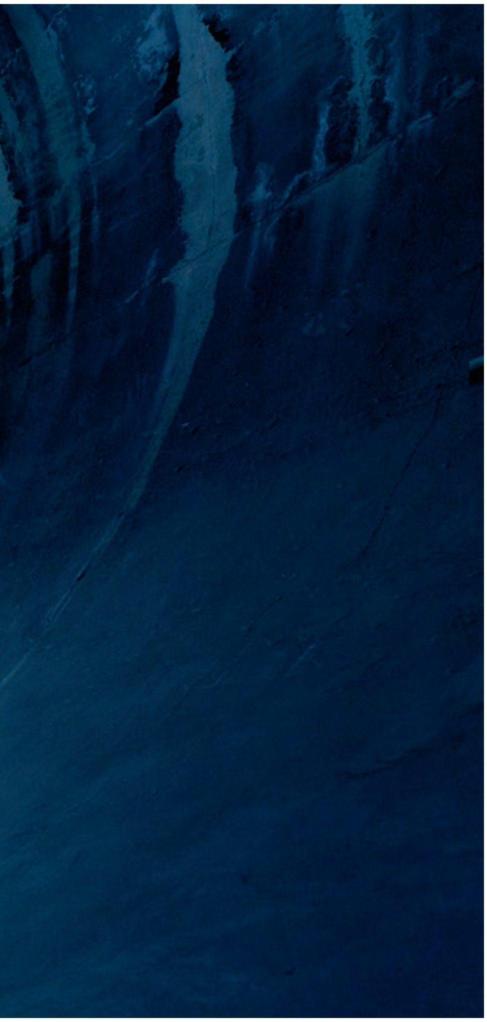
Additionally, if, under EMIR, a derivative contract must be cleared then the EU's European Securities and Markets Authority (ESMA) has six months to decide if it is liquid enough to require trading on a new breed of platform known as an Organised Trading Facility (OTF). Dealers won't have the same flexibility in handling orders, as the nature of the product and the identity of the counterparty will dictate how the order is traded.

Banks and end users must think whether they have deep enough pockets to buy and sell swaps once the new rules bite

MiFID also gives regulators new powers to impose position limits on commodity derivatives.

"The full impact of the EU reform to increase safety and efficiency of OTC derivatives markets may only be felt in a couple of years," says Rafael Plata, secretary general of the European Association of CCP Clearing Houses. Rob Moulton, a lawyer at Ashurst agrees: "From January 2017 onwards, derivatives markets will need to evolve and get used to this increased transparency and scrutiny."

Much is still to be done before the actual start dates. The US has already mandated its counterpart to OTFs, known as swap execution facilities



or SEFs, giving Europe two years to draw lessons.

"Given there is quite a long lead time on that, by the time the European trading obligation becomes real, there will be a better understanding of how OTC derivatives can be traded on electronic platforms," explains Damian Carolan, a financial services lawyer at Allen & Overy.

This year the sector will get a better idea of how regulators will decide what constitutes a liquid swaps contract, but the new rules will likely be felt before they actually become law. "Potential early market impacts could see the initiation of new OTFs, and potentially also the disappearance of some existing dealer-crossing networks, hit by the ban on equity trading," says Alex Merriman, head of regulatory affairs at SIX Securities Services. "The definition of a liquid security, together with new pre- and post-trade transparency requirements, could also usher in changes in the most frequently traded securities," he adds.

There are already efforts by some exchanges to anticipate OTFs by 'futurising' swaps – creating listed copycat versions of swaps – that, if successful, could make it harder for any new OTF to remain viable, as some US SEFs are already discovering.

"Banks will have to decide this year and next whether they want to set up an OTF while bearing in mind they won't be able to conduct group proprietary trading on it," Carolan notes. "That is, they would be creating a market for other banks to make money. I don't see any interest to do that."

A global approach

How Europe's derivatives market shapes up also depends on whether the EU and the US can this year iron out differences in what is meant to be a common global approach to reforming the sector. The differences are already causing market fragmentation.

"Trading venues should be able to operate across jurisdictions without having to comply with the full range of second jurisdiction rules," opines Tom Springbett, who implements OTC reforms at UK regulator, the Financial Conduct Authority. "There are quite significant risks if we regulators fail to achieve that."

This year will also be key for how regulators will calibrate MiFID's new pre- and post-trade transparency requirements for derivatives, a step that will have a direct impact on liquidity and on whether some market makers pull out before the rules actually become law. The EU's CRD bank capital rules implement a G20 accord known as Basel III whose underlying assumption is that clearing derivatives should be cheaper than leaving them uncleared, meaning the combined capital charges and margining should be lower on the former.

However, under CRD the current zero-risk weighting for banks' exposures to clearing houses will end, meaning capital must be set aside. This in turn could require even higher capital charges on non-cleared derivatives than at present, leaving some end users wondering whether it's worth hedging some risks. Creating a cost-effective clearing incentive will involve regulators working through 2015 and beyond to get the calibration right but the challenge is becoming more complex.

CRD also introduces new leverage ratios for banks from 2018, a broad measure of capital to the lender's assets on a non-risk-weighted basis, acting as a disincentive to hold derivatives, especially as netting of positions will be curbed and initial margins counted as an exposure rather than risk mitigant. Banks must publish their ratios from this year, putting pressure on them to fully comply early.

The upshot is that banks and end users must seriously think in 2015 whether they have deep enough pockets to buy and sell swaps once the new rules actually bite.

This year the EU will also publish a draft law on who should foot the bill for a failing clearing house. Central counterparties may have to issue bonds that can be converted to equity in a crisis or set up a new bailout fund, but whatever the solution, it will bump up costs that are ultimately paid by clearing customers. Some fear the new law could end up requiring even higher capital charges on non-cleared derivatives to keep intact that G20 incentive to centrally clear as much as possible. ■

Shaking up the infrastructure

Decades of organic growth stimulated largely by market pragmatism are being shaken up by the new regulations. By **John Parry**

In the last 50 years three major developments have dominated derivatives markets and generated extraordinary high levels of volume growth. The first, in the 1970s, was the extension of the exchange-traded futures concept from traditional commodities to financial markets and other assets. The second was the parallel expansion of over-the-counter (OTC) derivatives in these markets. The third, in the 1990s, was the introduction of electronic trading that allowed brokers to scale-up their client business.

These innovations drove global futures and options volume growth of around 30 per cent per year until 2008. It will surprise very few in today's markets if the fourth major development – unprecedented levels of new regulation – severely impacts that long-term growth trajectory. The reason is that although exchange-traded derivatives (ETDs) played no part in the 2008 crisis the regulatory effort to bring OTC into clearing is also introducing fundamental changes to the established business processes of ETD markets, which will drive up costs.

Almost every point in the workflow will be affected, although the long implementation schedule set out for the European Market Infrastructure Regulation (EMIR) means a transition period of around four years in Europe. This began in earnest in the first quarter of 2014 with the beginning of the central counterparty (CCP) authorisation programme and the introduction of mandatory reporting of trades to trade repositories – organisations defined under regulation to receive and collate transaction data from both OTC and ETD markets.

Brave new world

Some early debate on the superfluity of trade reporting for ETD – based on the fact that exchanges already had this information and the trade repositories simply duplicated it – subsided, as it was recognised that the value of additional transparency it would bring to OTC markets was broadly beneficial, assuming regulators understood how to access and interpret the data. In any case, ETD markets were facing a much larger challenge arising out of the CCP authorisation programme.

In essence, this was part of the core shift in markets as set out in the original G20 plans to introduce more security, i.e. reduce risk, via clearing, in OTC markets. With OTC larger than ETD markets by a factor of 20 or so, the regulators decided the larger and different risks now being introduced to clearing needed CCPs that were fit for the new purpose.

Two new concerns surfaced. One was about the relative weight of CCP balance sheets versus member-funded default funds. Since most CCPs are not utilities but commercial firms owned by shareholder corporations (commonly exchanges), some market participants view the flow of CCP profits to the shareholders but losses to the members as somewhat unbalanced.

The difference of opinion has encouraged central banks to engage, despite early G20 protestations that taxpayer funds would no longer support financial market institutions, with suggestions about liquidity provision, special-purpose vehicles and the like. Xavier Rolet, CEO of London Stock Exchange Group, which controls LCH Clearnet, has also tried to ease the polarity of the debate by pointing out that clearing member risk is different from CCP risk and what is important is the latter's "total loss absorption capacity". But it remains a brave new world for CCPs and doubts remain about the reaction in a major default.

The second concern was the ending of the routine practice of clearing brokers banking their clients' deposits gross, collecting the interest and paying the CCP net. Instead, CCPs were to devise new client account mechanisms where clearing members would be the bridge between CCP and customers but not hold their collateral. In the US, Dodd-Frank had initiated something similar. EMIR went further by requiring CCPs to offer omnibus segregated accounts, where client collateral could be pooled with other clients but not with the clearing broker, right through to clients having individually segregated accounts with full asset protection.

Two further consequences emerged from this shift. One was

> **There is an imbalance between a clearing broker's responsibilities for payments to a CCP and rights to client collateral. This poses a potential liquidity risk**

the ending of the income stream to clearing brokers from client monies on deposit. It was largely this funding income that sustained the profitability of intermediaries for the past 30 years – brokers could expand their client base via electronic trading using their margin deposit income to offer reduced order handling commissions. In this era of negligible interest rates for short-term deposits, that income has largely evaporated anyway.

But of equal concern is the second, more complex and costly burden of administration. EMIR will require customer balances to be administered by the clearing broker at a very granular level, by security, by currency and by CCP if more than one. These records will also be replicated at the CCP level.

An additional irritation is that the segregation models offered are specific to each CCP. Patrick Cirier, chief administrative officer of Société Générale Newedge, is not alone in calling for greater standardisation of segregated account models by CCPs, although the clearers argue they need competitive differentiators. Customers are siding with the clearing brokers on this, as each clearing account now requires its own legal sign-off.

The new clearing and segregation models will also introduce new operational tensions. As proposed, there is an imbalance between a clearing broker's responsibilities for payments to a CCP and rights to client collateral. This poses a potential liquidity risk to clearing brokers who remain liable for funding clients' positions at the CCP but who may not have received the client collateral in time.

Paradigm shift

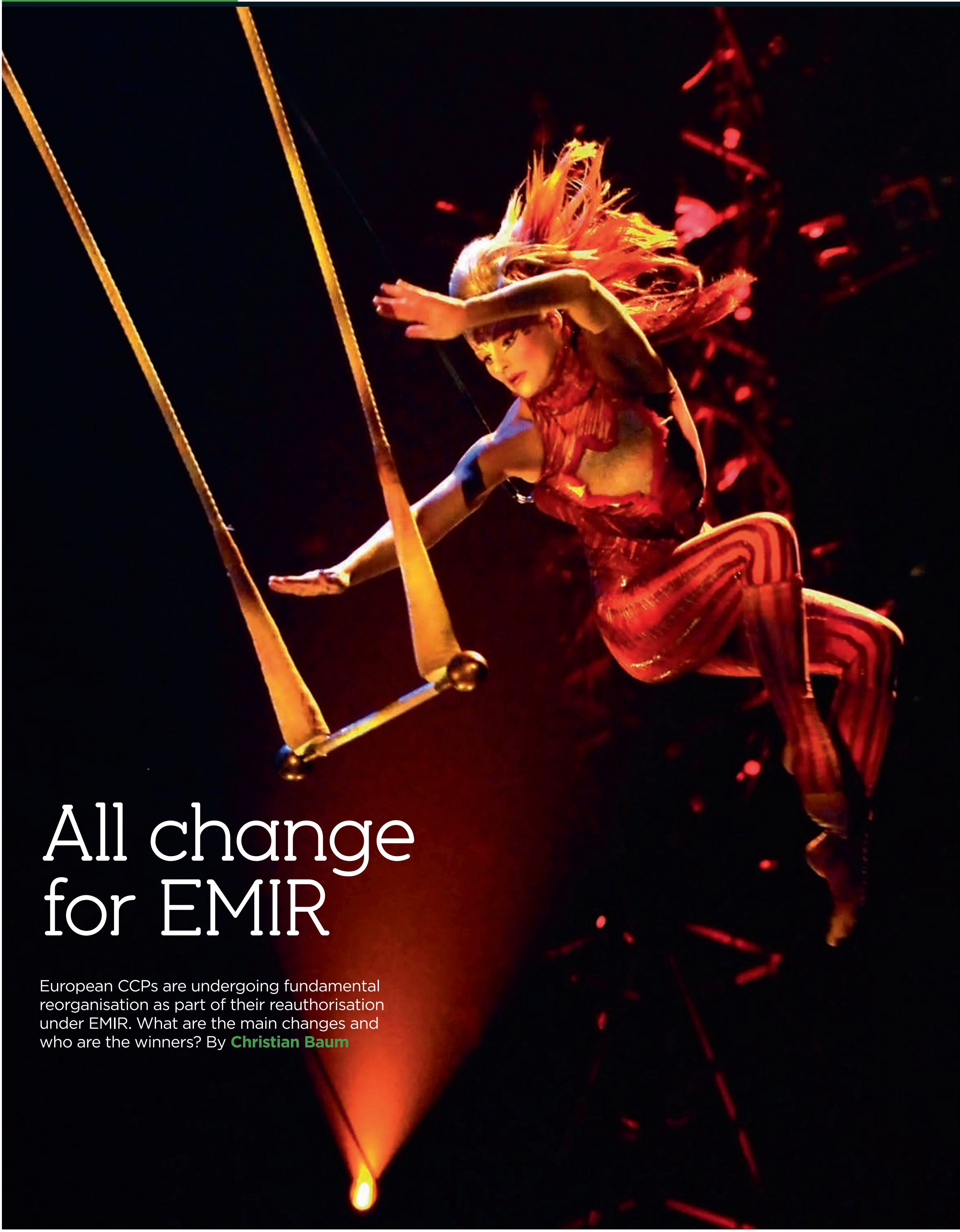
All these factors, argues Cirier, effectively bring to an end 150 years of the mutualisation of risk in futures markets between members and users. "New regulations will enforce a paradigm shift in how clearing brokers and CCPs operate, because effectively they allow the client to opt out of mutualised risk," he says.

In due course, European markets may also need to expand the range of trading venues. As under Dodd-Frank and the introduction of swap execution facilities, the existing European venues of recognised exchanges and multilateral trading facilities will be added to by the introduction of organised trading facilities (OTFs) for OTC contracts not traded on the other venues. Quite where OTFs fit in if established exchanges succeed in introducing futurisation – replicating OTC contracts into an ETD format – remains to be seen.

IT suppliers can provide an early warning system for emerging trends as intermediaries and their clients need to design for the future, but such is the overarching complexity of the changes required that clear indications are yet to emerge even from this normally adroit sector. The traditional separation of OTC from ETD markets means parallel but different technologies have developed. Given the merging of these two sectors, how will their different technology providers respond?

ETD vendors with products designed to manage transactions, margining and clearing would seem to provide a template for the new cleared OTC markets. Matt Streeter, capital markets strategist at FINCAD, a markets infrastructure consultancy, suggests that ETD-experienced vendors are leveraging their existing range of products for OTC: "Reconciliation, margin and collateral management systems for ETD markets, for example, can all be leveraged into cleared OTC."

But Tony Sodhi, managing principal at GFT, which advises both sell-side and buy-side firms on brokerage and clearing services, thinks that the traditional complexity of OTC instruments makes it challenging to adapt ETD vendor products for the OTC market. Nonetheless, he notes that existing derivatives system vendors are "developing mechanisms to standardise matching/affirmation, messaging, margin calculations and so on, towards higher levels of STP [straight-through processing]. This has been evolving in vanilla products for some time but it is expanding as OTC clearing develops." ■



All change for EMIR

European CCPs are undergoing fundamental reorganisation as part of their reauthorisation under EMIR. What are the main changes and who are the winners? By **Christian Baum**

> **EMIR requirements for protecting client assets have been a major area of change for central counterparties**

NASDAQ OMX Clearing took financial markets by surprise in March 2014 when it became the first central counterparty (CCP) to be authorised under European Market Infrastructure Regulation (EMIR). However, the first of the major derivatives clearing houses to gain approval was Eurex Clearing in April. Although the German regulator had approved Eurex's application, there was some delay due to disagreement in the regulatory college, an institution created by EMIR.

No longer are licensing matters the sole preserve of the national regulators. For a CCP active and/or with members in several European countries, a group consisting of the impacted national regulators, the European Securities and Markets Authority (ESMA) and the relevant central bank is formed and chaired by the national regulator. This 'college' alone has authority to grant authorisation of CCP services. The college is supposed to reach a decision based on consensus. Only if no consensus can be reached is there a majority vote. Gone, then, are the days when regulation was a national matter.

All the other major European derivatives CCPs were reauthorised within a matter of months of the Eurex decision, including new entrant, London Metal Exchange (LME) Clear, with the exception of ICE Clear Europe. It resubmitted its application because of a change from SPAN (standardised portfolio analysis of risk)-based risk management and margining to a VaR (value at risk) methodology. The latter seems to be a general trend: Eurex has switched to VaR-based margining and LCH is looking to clear futures in the SwapClear pool, which also uses VaR-based margining. The driver is the attempt to optimise collateral usage through cross-product portfolio margining.

EMIR has created a Europe-wide rule book for CCPs for both over-the-counter (OTC) and listed derivatives clearing. This contrasts with Dodd-Frank, which applies to OTC clearing only. It has forced all European clearing houses to adapt, even those who do not clear OTC derivatives. This variance has hindered mutual recognition of CCPs between the US and EU.

The clearing house most at risk from the lack of mutual recognition is CME. Unless the issue gets resolved by 15 September 2015, CME could find itself in a position of not being a qualifying CCP in Europe, which means capital requirements for all its clearing members and institutional clients would increase significantly, threatening the CME's business in Europe. Interestingly, one of the issues hindering recognition of US CCPs in Europe has nothing to do with Dodd-Frank, but pertains to risk management standards for listed futures. Dodd-Frank did not change these, whereas EMIR introduced new standards such as two-day close for calculation of initial margins versus one-day close out. These differed from market practice in the US, the largest futures market with the longest track record, as well as some European countries, such as Germany.

EMIR requirements for protecting client assets have been a major area of change for CCPs. The regulation mandates that at least two options are offered for client clearing: omnibus segregated accounts (OSAs) and individually segregated accounts (ISAs). These are being introduced into what was already a non-uniform activity.

The traditional Eurex model, for example, did not offer OSAs, so these were introduced. But Eurex did already offer ISAs. The other major clearing houses already offered OSAs, with LCH SwapClear offering a model similar to LSOC (legally separated, operationally commingled) for interest rate swap (IRS) clearing. LSOC was taken up by the Commodity Futures Trading Commission as the sole mandatory model for OTC derivatives clearing.

Some reservations

Unfortunately, LSOC does not conform to EMIR standards for ISAs, which meant the other CCPs had to design them. While these all conform to EMIR, there are differences. For example, the ICE Clear and CME Clearing Europe models process collateral directly between customer and CCP via a trustee, thereby disintermediating the clearing member. This reduces transfer risk for the client, but does create issues for clearing members in that they guarantee the client versus the CCP but do not control client collateral and must rely on a third party to post margin collateral. Unsurprisingly, clearing members have reservations about this.

Some CCPs offer up to four account models: net omnibus, gross omnibus, LSOC and ISA. SwapClear even offers variants within variants, for example individual segregation with a choice of value or actual asset protection of the collateral.

Whether there is any benefit in offering that many choices remains to be seen. Clients are finding it complex and difficult to assess the various models. However, given that some CCPs also operate in the US, such as LCH SwapClear, they have no choice but to offer at least three models: net omnibus (regarded as the most cost effective), LSOC (for US OTC derivatives) and a variant of ISA in Europe.

Awkwardly, there is another fundamental issue: insolvency law. Eurex operates under German law while the other major European CCPs are under English law. Although EMIR attempts to set European-wide standards and a level playing field, when push comes to shove, in a default national insolvency law will prevail.

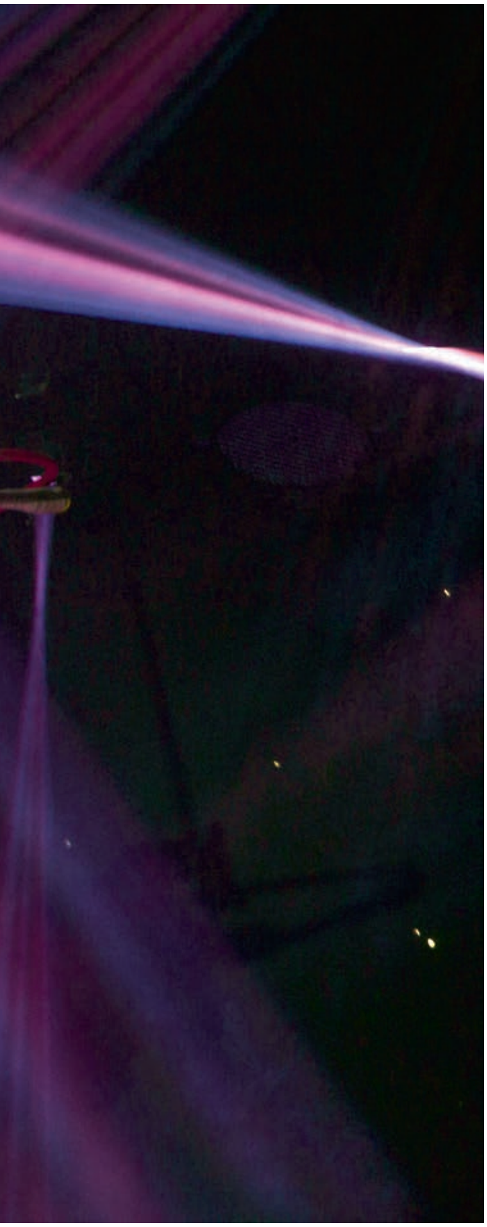
CCP balance sheets also came under scrutiny, mainly because CCP capital is part of its 'skin in the game' with respect to the default waterfall. The mandated waterfall in case of default is:

- defaulting members' initial margin;
- defaulting members' guarantee fund contribution;
- CCP own contribution to guarantee fund;
- non-defaulting members' guarantee fund contribution;
- assessment powers on members;
- CCP capital or other resolution.

Given that all European CCPs now conform to this regulation and have committed their own capital ahead of recourse to non-defaulting members' guarantee fund contributions, the discussion kicked off by J.P. Morgan regarding CCP capital seems a bit disingenuous.

While it is true that increased CCP funds in case of default reduce the risk of loss for non-defaulting members, and also would incentivise the CCP to have a robust initial margin policy, at the same time it could act as a disincentive for members to monitor client risk as well as increase initial margin requirements and clearing fees. The amount of CCP capital is also regulated by EMIR, as a result of which, for example, LCH.Clearnet pre-emptively increased its capital by €320 million in May 2013.

What happened to OTC derivatives clearing? In the absence of a mandated clearing obligation by ESMA, most of the action has been in the US where LCH SwapClear was the only European CCP to be involved. In Europe, most clearing remained of



the interdealer type where SwapClear has a dominant position. Eurex Clearing did gain some traction in CHF and EUR IRS clearing, with a cleared outstanding notional volume of $97 billion by the end of 2014. NASDAQ OMX, offering a localised SKR-only IRS clearing service, booked an outstanding notional volume of $56 billion. In comparison, LCH SwapClear recorded an outstanding notional volume of $359,000 billion, of which $12,600 billion were client-related, mostly US.

> **Some CCPs offer up to four account models... Whether there is any benefit in offering that many choices remains to be seen. Clients are finding it complex**

The clearing obligation will probably come into effect in Europe, subject to EU approval, by August for clearing members, by February 2016 for other financial market participants with a volume above the €8 billion threshold, and even later for others. This should trigger increasing IRS client clearing volumes.

SwapClear seems well positioned to pick up a large amount of that volume, but there is a chance for other CCPs such as Eurex. In the US, CME has captured a significant amount of IRS client clearing on the back of an offering that includes cross margining between OTC USD IRS and the Eurodollar and Treasury futures that are also cleared at CME, recording an outstanding notional volume of $22,900 billion (compared with SwapClear's $12,600 billion).

In a shrinking OTC credit derivatives market, ICE Clear Europe remained the dominant player. The obvious question is whether it will enter the much larger IRS clearing market. Like the CME and Eurex, it could offer cross margining against an existing pool of open interest in futures it already clears: the euribor, short sterling and gilt futures.

The immediate ICE Clear focus, however, seems to be on clearing swap futures licensed from Eris that will be introduced on the sister exchange, ICE Futures Europe (formerly known as LIFFE, the London International Financial Futures and Options Exchange). Although there is a lot of discussion regarding futurisation, i.e. the substitution of listed derivatives for OTC derivatives, as far as interest rate derivatives go the historical evidence is lacking.

Swapnote futures traded on LIFFE for over 10 years with little volume, as did similar contracts in the US. There are now 'new and improved' swap futures in the US, traded on the CME with Goldman Sachs-patented deliverable swap futures and the Eris Exchange, that have gained some traction there. However, it seems that, rather than taking volume away from the OTC markets, they have drawn new participants into the market. In Europe, Eurex has also listed a deliverable swap future but has failed to build any volume so far.

So, what else can we expect from 2015? Eurex will challenge for IRS clearing volume, but might we see a dark horse emerging too in this space? Will LCH build on its huge pool of IRS open interest to offer cross-margined interest rates futures clearing? In contrast to past practice, LCH is applying to clear interest rate futures in the same pool as SwapClear, which would allow it to offer cross margining, which is not possible under its current set-up. In combination with the Markets in Financial Instruments Directive II open access to clearing, this could seriously expand the LCH clearing business.

Will we see additional clearing obligations? Index credit derivatives seem to be next in line but the timing is difficult to predict. And, finally, will the EU and the US resolve the issue of mutual recognition?

Enough in the coffers?

Are CCP capital levels insufficient or is it merely a tussle between who should contribute? By **Tim Reucroft**

To say CCP capital is sufficient or not is a hostage to fortune – until there is a (bad) default, we won't really know. It's easy to dream up nightmare scenarios where it all goes horribly wrong, irrespective of the amount of capital set aside. The argument seems to be that capital is a necessary but not sufficient condition for being a central counterparty, but this is an argument about causation, when what we need is an argument about ontology.

Skin in the game

The European Market Infrastructure Regulation (EMIR) introduced the notion of skin in the game, whereby a CCP must set aside at least 25 per cent of capital ahead of non-defaulting clearing members. This is designed so that the first level of mutualisation of risk is the CCP, not the default fund. If the role of the CCP is no longer to protect its clearing members but to protect the taxpayer, can there ever be enough capital?

A large asset manager recently suggested the minimum capital contribution from CCPs should be the highest of 5 per cent, $20 million or the third-largest clearing member contribution. Why not? The asset manager makes no contribution to the mutualisation of risk; they only cover their own risk and port away if their clearing member gets into trouble.

While skin in the game is a European notion it was given some consideration in the US. Speaking at a banking conference in Chicago in November 2014 Governor Jerome Powell, a member of the board of the Federal Reserve, noted that "a number of commentators have urged US authorities to consider requiring CCPs to place significant amounts of their own loss-absorbing resources in front of the mutualised clearing fund or other financial resources provided by clearing members.

"These requirements would be intended to create incentives for the owners of CCPs for careful consideration of new products for clearing, for conservative modeling of risks, and for robust default waterfalls and other resources to meet such risks as may materialise. The issue is a complex one, however, and a number of factors would need to be considered in formulating such a requirement".

In that context the answer to the question of whether US regulators will require CCPs to put up more of their own capital to cover potential defaults is probably 'no'. So if the US refuses to put up skin in the game, how can it possibly hope to be recognised by the European Securities and Markets Authority (ESMA), which makes it a condition?

Whose risk, whose return?

Let's assume we have a default where the skin in the game needs replenishing but the default fund does not. If the fault were unrealistic portfolio offsets, for example, then the capital contributors (shareholders, not the clearing members) would likely vote to close the whole show and pull back what capital is left. Why would anybody want to put capital into a CCP already in default, with an overlay of unlimited liability? Skin in the game, therefore, is shareholders' risk.

If the Basel Committee on Banking Supervision (BCBS) 227 requirements encourage CCPs to have enough capital to meet Method 1 equation iii, then the clearing members have much to gain if the CCP shareholders put in additional capital. So you would expect calls from clearing members for CCPs to increase skin in the game – it's not their capital. In other words, there is a divergence on interest between the CCPs and their clearing members as a regulatory requirement – not a good design feature.

Who brings the risk to the CCP? Is it clearing members, in these post-prop trading days? No, it's clients that bring risk, so it's clients that should contribute. And if clients benefit from risk mitigation, why should the clearing members mutualise it for them?

The clients contribute to risk via initial margins. Clearly they would prefer these to be low and the default fund to be high. Clearing members want the opposite. Moreover, the client only pays initial margin to cover normal market conditions. They don't contribute towards extreme but plausible market conditions – the clearing broker covers that additional risk via the default fund. So the client doesn't really contribute to a default risk and if there is a default they walk away – if they have portability.

With the introduction of end client clearing, the CCPs are now focused on attracting clients at the expense of clearing members. They do this by providing portfolio offsets, to minimise the client's initial margin requirement. I don't see the clearing members objecting to this. The original ethos of a CCP was risk mutualisation among users – but the users have changed. The shareholders are now expected to put up the first line of defence, the clearing brokers the next, while new users get a free ride.

Shareholders are expected to put up the first line of defence, clearing brokers the next, while new users get a free ride

Biggest risk

Imagine the scenario: the CRO knocks on the CEO's door – XYZ haven't paid their margin call. The CEO says give me 15 minutes to make some calls. Twenty minutes later, still no margin. The CEO says OK, put them into default and close their positions. The CRO says I can't do that because...

Compression takes centre-stage for derivatives

By **Daniel Maguire,**
global head of SwapClear, LCH.Clearnet

Compression has become a game changer for financial institutions. Not only is it delivering capital and operational efficiencies, it's driving down the inventory of interest rate swaps. This is an exciting and vitally important trend for all participants – especially banks – as they face economic and regulatory headwinds.

The use of compression to improve operational efficiency is not a new concept. Indeed, SwapClear has been offering the service through its partnership with TriOptima for more than a decade. What's different today is the growing importance of compression, and the extent to which it is being used by the broader community. For banks, more active management of their balance sheets has become a necessity as they position themselves to address Basel III and the Leverage Ratio. This focus will only intensify as the new banking rules get implemented.

In its simplest form, compression allows all institutional participants in the industry – banks, asset managers, pension funds, insurance companies, hedge funds and others – to reduce the line items in their portfolio with fewer positions of the same or similar terms. This significantly improves operational efficiency and also streamlines portability in the event of a default.

While the benefits of compression are sizeable, the industry is taking an even greater leap forward with the introduction of compression with blended rate, which allows any trades or positions with the same remaining payment dates to be replaced with fewer 'risk replacement' trades. This dramatically expands the universe of eligible trades.

Indeed, compression services are no longer the preserve of the large banks. In 2014 alone, over $100 trillion notional outstanding was compressed by buy-side institutions using SwapClear's proprietary compression tools. In January 2015, over $5 trillion of the $33 trillion compressed at SwapClear was by the buy-side – half of the total amount they cleared.

Today, we are also developing multilateral compression for the buy-side with TriOptima. As a result of these and other industry initiatives, compression has become the most significant step toward consistently reducing the growth of notional swap inventory since interest rate swaps were invented more than 30 years ago. Given the emphasis on capital and operational efficiencies, we expect to see compression remain centre-stage in 2015 and beyond.

What is a CCP?

»The buyer to every seller etc etc. A principal in the chain but one that has no ability to act even as an agent. That's not going to work.

It's fundamental that you align responsibility with authority. A CCP, however, is principal to contracts over which it has no authority. A CCP should be a natural monopoly but has become an artificial construct that doesn't work in a full-blown crisis – so something else is required. Throwing more capital at CCPs isn't going to rectify a design flaw. If the regulators can't sort out taxonomy for trade reporting, the CCPs don't stand a chance. **Tim Reucroft.**

So why can't he close out the positions – because the exchange is closed. This is obviously for ETD but for OTC it might be 'we can't raise the appropriate people to bid on the positions, they are all tied up with defaults elsewhere'. What happens now is that initial margins that were designed for normal market conditions with a close out of two days (ETD) or 5-10 days (OTC) now go out to infinity, along with the risk (which suddenly becomes much more than just market risk). Now you pray that the waterfall can cover an indefinite event horizon.

However, if the CCP could close out the positions itself then the risk is locked in and contained. The initial margins could be sufficient if you contain the event horizon, no need to use capital or default funds for recovery, no allocation of losses to initial margins and no resolution required – hmmm. Of course in such a situation there would be a good case for a CCP contributing skin in the game.

Recovery & resolution

If you insist on a bail out, then who provides it? In the US I would expect the Fed to step in.

Except Mr Powell already said they wouldn't: "After the crisis, governments firmly resolved that even the largest financial institutions must be allowed to fail and be resolved without taxpayer support and without threatening the broader financial system or the economy. CCPs therefore need to adapt to a world in which their largest clearing members will be allowed to fail.

"The same is true of CCPs themselves: they, too, should have no expectation of taxpayer support if they go to the wall. The purpose of all of this new infrastructure and regulation is not to facilitate the orderly bailout of a CCP in the next crisis. On the contrary, CCPs and their members must plan to stand on their own and continue to provide critical services to the financial system, without support from the taxpayer."

That may be true in the US but not necessarily in Europe. The Bank of England has said they will provide liquidity according to its news release of 5 November 2014:

"The Bank of England is today widening access to its Sterling Monetary Framework (SMF) to accept broker-dealers and central counterparties (CCPs).

"The changes introduced today follow on from the Governor's commitment to widen access to the Bank's facilities, made at Mansion House on 12 June 2014. They are designed to recognise the important role played by broker-dealers and CCPs in the provision of critical financial services to the real economy. In providing these critical functions, both broker-dealers and CCPs are exposed to liquidity risk.

"As the supplier of the economy's most liquid asset, central bank money, the Bank is able to be a 'back-stop' provider of liquidity, and can therefore provide liquidity insurance to the financial system.

"Specifically, from today, those broker-dealers deemed critical to the stability of the UK financial system (designated investment firms) and CCPs that operate in UK markets and are either authorised under EMIR or recognised by ESMA, are eligible to apply for participation in the SMF, including the Discount Window Facility.

"These changes are set out in an updated version of the 'Red Book', which sets out the framework for the Bank's operations in the sterling money markets."

The somewhat challenging hypothetical prospect that throws up is what might happen if, for example, CME Europe clients defaulted to the point where a Bank of England bailout was required. That would be the UK taxpayer bailing out a US subsidiary then? Imagine the politics of that! ■

Segregation challenges

The availability of individually segregated accounts is a major challenge for clearing brokers, but also a mixed blessing, says **Mark Mills**

The futures clearing community faces a considerable test in adapting to the new European Market Infrastructure Regulation (EMIR) relating to the implementation of client-segregated and portable accounts. Although EMIR-mandated over-the-counter (OTC) clearing may not begin until September 2015, and there is debate upon how to back-load existing OTC trades and their exposures, the challenges to the futures industry are unique given the scale of the business already being undertaken, margined and managed.

The greater part of existing exchange-traded derivatives (ETD) cash and positions will need to be restructured in real time and this will significantly affect the futures industry this year. How will the brokerage community respond now that the majority of European central counterparties (CCPs) are authorised, and, importantly, gauge what the client take-up has been?

The focus will be on a number of key concerns. Firstly, the aim of such individually segregated

accounts (ISAs) is to allow the client's assets, both positions and monies, to transfer to an alternate clearer in the event of a failure of the client's broker. Clients of clearing brokers need to appreciate that a reasonable expectation of such a transfer can only exist if they have a pre-agreed alternate ISA already set up and possibly activated. Intermediate clearing brokers are not themselves required to offer this account structure. Additionally, all clearing members of approved CCPs are now obligated to offer at least one of the segregated accounts offered by the CCP. Some CCPs do have more than one such account type.

Given we know what is to be offered and by whom, how does this affect clearing members of CCPs? The easiest way to describe the impact on brokerage functions is to consider that before EMIR came to pass, a clearing broker had to simply consider two independent settlement obligations: one to the CCP and one to the client. Now, once an ISA becomes active on the books of a broker, that broker must – operationally – act more like an agent by replicating the CCP cash balances and positions held for the client at the CCP.

Although a broker has always considered this appropriate for trades and positions, it is the effect on cash and client balances that will have the most significant impact to the clearing broker. The operational complexity arises as the client will continue to pay the broker in the first instance before cash is moved to the CCP. The natural timings and bookings of these monies will produce at least two balances per currency where one existed previously – hence the complexity to manage.

NASDAQ OMX Clearing was the first European CCP to become authorised in the spring of 2014. The early initial expectation that all CCPs would be approved in a very short timeframe did not materialise. That was good news for clearing brokers, as they avoided a 'big bang' impact. At the time of each CCP's approval, the clients of that CCP's clearing member community will have received a letter asking the client to advise if they wished to stay in the omnibus account or be moved to an ISA. In theory this enabled an orderly and manageable documentation flow, but in practice it was perhaps somewhat overwhelming for the clients, as that simple question would have included other lengthy disclosures.

It is worth noting that a broker must seek a written decision from each of their clients per CCP. However, the regulations do not impose upon the clients any time to reply – so no doubt there will be considerable broker-to-client follow-up letters and phone calls. At the time of NASDAQ's approval, brokers published on their external websites their proposed commission and fee structures with the aim of helping prospective clients understand what their costs will be. However, establishing a direct comparison is difficult even for a trained eye. And as few clearing brokers could demonstrate ownership of such standard clients, these rate schedules remain subject to negotiation as before.

Issues for the end client

With most CCPs in Europe now re-authorised and clients contacted for their choice, what has been the take-up of ISAs? Even the most active futures commission merchant may only boast a handful of ISAs so it would be difficult to describe the take-up as anything but moderate at this time. CCPs on the other hand comment on a good deal of interest in their offerings. How do we reconcile the interest shown and the reality delivered so far?

There are at least three issues which mostly affect the end client. First, work undertaken by the clearing brokers in the area of cash balance management must be replicated by clients. Without such cooperation between both parties the reconciliation of specific currency balances would quickly become problematic. This is because, in the ISA model, cash can now be at the CCP as well as at the broker. Second, the paper trail is large

and potentially cumbersome for clients. It will take time for the legal representatives of clients to agree with their operational and business colleagues their own 'correct' way forward. Third, we need to consider that larger clients commonly use OTC products in tandem with futures and options. It may therefore serve their purpose to wait until OTC clearing is live in September 2015 and bring all their business to an ISA structure at that time.

All things considered, it's likely that clearing brokers would have welcomed this slower-paced move to ISAs as it would have allowed time for the IT and administrative developments necessary to produce the statements to replicate individual cash balances. Certainly the lack of a large-scale take-up would have given some clearing brokers the option of replicating an ISA to a uniquely managed account on their books to allow for easier management and reconciliation (however, if this account structure has been set up then the client might be asked to make separate payments to and from this account, adding further complexity).

"It will take time for the legal representatives of clients to agree with their operational and business colleagues their own 'correct' way forward

Delaying the inevitable?

In conclusion, while CCPs and their clearing brokers can be rightly pleased at having launched the ISA structures and distributed the necessary documentation to a large client base, does this mean we can assume all is complete and turn our attentions to the next elements of regulatory change? The pressure within the clearing community will certainly be to do so. But if the number of ISAs remains small, what does that mean for the futures and options community? CCPs and clearing members would possibly remain content, albeit frustrated at the volume of work completed for a relatively small outcome. However, longer term it will be the clients who will decide the ultimate take-up of ISAs. The juxtaposition of futures accounts with mandatory OTC clearing will most probably deliver ISAs in greater numbers. The delivery of the real challenges for the clearing members may only be delayed. ■

Collateral management: Challenges and new solutions

By Ted Leveroni, chief commercial officer, DTCC-Euroclear Global Collateral

Collateral management has long been critical to global capital markets, which are essential for economic growth. However, increasing global regulation is creating fundamental challenges to the existing operating models of market participants that trade over-the-counter derivatives, due to market fragmentation and multi-jurisdictional regulation.

These regulations have focused on improving market stability, enhancing transparency and reducing counterparty, operational and liquidity risk. But they are largely dependent on the efficient management and effective processing and allocation of collateral. The industry's ability to overcome these challenges rests on cross-border collaboration and the development of holistic, industry-wide solutions.

> **Financial institutions are becoming increasingly wary of fragmented methodologies that can only deliver limited operational cost and risk benefits**

Under G20-led reforms, policymakers have recently introduced new rules and regulations that require firms to collateralise their non-cleared derivatives trades. These efforts complement a wide range of US and European regulations governing the use and capitalisation of derivatives. Specifically, the Dodd-Frank Act, the European Market Infrastructure Regulation (EMIR) and Basel III, taken together, are impacting the management, mobilisation and transformation of collateral. This will affect costs and risk in a number of areas, including: funding costs; operational capabilities and settlement exception management; and reporting and record-keeping.

A large number of firms, however, are still using antiquated, manual processes and fragmented systems to manage their collateral. Too often, collateral is managed in silos across an organisation, sometimes making it impossible to take a holistic view of how the collateral is deployed. This can make managing and processing collateral inefficient and costly.

In fact, an academic study published in June 2014 by DTCC and the London School of Economics (LSE) highlighted the growing number of collateral bottlenecks due to weaknesses in financial market infrastructure. These weaknesses lead to eligible collateral becoming stuck in one part of the system and unattainable by creditworthy borrowers. These borrowers need access to their inventory of collateral, not only for central clearing purposes and higher margin requirements for bilateral transactions, but also to track and optimise their available collateral. The ability to successfully analyse the collateral implications of a trade before it is executed allows for more efficient management of available assets.

As a result, financial institutions are becoming increasingly wary of fragmented methodologies that can only deliver limited operational cost and risk benefits and will ultimately leave firms struggling to operate in the new environment. Instead, they are seeking to partner with market infrastructures to bring efficiency to their collateral processes, enabling them to remain competitive and drive down costs. To meet that objective, a joint venture between DTCC and Euroclear (DTCC Euroclear Global Collateral Ltd) has been established to address operational and liquidity risk, as well as the broader issue of systemic risk by providing transparency, mobility, efficiency and security to the collateral process.

Dramatic changes are rippling across the market, which have in turn led to new approaches and opportunities to improve collateral processes. By understanding the key drivers for change, market participants globally will be much better placed to meet these operational challenges.

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Pushing harder for HFT reform

Exchanges are having to balance the added volume produced by high-frequency trading against the criticism that HFT confers, or requires, certain advantages. By Will Mitting

Also in this section:

Few could have predicted the impact of Michael Lewis's book *Flash Boys*, released in March last year, which created an unprecedented backlash against high-frequency trading (HFT).

Many of the claims were not new. Haim Bodek, a former algo trader, exposed secret order types advantageous to HFTs on US options exchanges and was notably absent from any mention in Lewis's book. Despite the main focus of criticism in *Flash Boys* being the equity and equity options markets, futures exchanges, which in the last decade have embraced high-frequency traders in a somewhat Faustian pact, have not been immune to the fire-storm.

Last April, CME faced a legal claim by three market participants alleging the company sold access to order information to high-frequency traders. CME denied the claim as being "devoid of any facts supporting the allegations and, even worse, demonstrates a fundamental misunderstanding of how our markets operate".

But the floodgates were open. Another lawsuit in November accused a number of US exchanges, including Nasdaq and Intercontinental Exchange (ICE), of rigging the market in favour of HFT. In October the Securities and Exchange Commission (SEC) brought its first HFT-related market manipulation case against New York-based Athena Capital.

Even the FBI got involved. The SEC's Quantitative Analytics Unit teamed up with the FBI to investigate how firms use HFT strategies. The FBI said that it was "helping the regulator tackle the potential threat of market manipulation posed by new computer trading methods that have taken operations beyond the scope of traditional policing".

Pushing at an open door

For futures markets, the wind was already in the sails of reforms to curb certain HFT practices. In 2012, ICE took steps to curtail "inefficient and excessive" HFT messages. The reforms took aim at the practice by some algo traders of submitting and then quickly cancelling orders away from the current market price to give an impression of deeper liquidity and imminent price changes.

ICE implemented a system in which orders were assigned a value depending on how close they were to the market price. Those with a high ratio of orders away from the prevailing price were hit with a charge.

Announcing the changes, ICE president and COO Chuck Vice voiced the dilemma facing modern markets: "HFTs are an essential source of liquidity in our markets and often provide price discovery where other traders may be reluctant to do so," he said. "It is incumbent upon exchanges to adopt rules and design controls that effectively address the existence of HFT within the context of market structure."

Vice's call was soon picked up. Eurex introduced order-to-trade ratios in December 2013 and today most futures markets have in place similar measures or others, such as excessive messaging rules, designed to reduce unfilled HFT orders and other practices that have come under criticism.

Despite the efforts by the industry to reign in excessive HFT practices, regulatory pressure is growing. The EU's Markets in Financial Instruments Directive (MiFID) II initially promised a draconian approach to HFT with minimum resting periods, algo registration and a host of other measures designed to all but eliminate many of the advantages of HFT.

While common sense and moderation has won out over some of the more extreme proposals, costs and complexity for HFTs will inevitably rise in the wake of MiFID II with algo tagging – the process of flagging algorithms with an ID that can be reviewed by regulators – set to be extended beyond Germany where it was introduced in May 2013.

There are two options to define HFT set out by the European Securities and Markets Authority (ESMA) within MiFID II. Both are currently subject to significant negotiation. The first is a development of the definition used by Germany in its HFT Act, which is already in force. The second, which is believed to be the preferred definition, relates to volume of trades on a venue sent by a trading firm and the average length of time that orders rest on the order book for each venue.

> **Perhaps the greatest challenge to the status quo of HFT will come from the market itself**

If a firm is above the median resting period, it will be classified as HFT. Worse, if a firm is over the threshold in one instrument on one market, it will be classified as HFT across all of its trading operations and subject to more onerous regulatory requirements. Quite how a firm could know in real time where the threshold lay at that particular moment remains unclear.

The consequences for HFT of the new European regulations could be disastrous. "Onerous requirements under MiFID II, coupled with uncertainty over the Financial Transaction Tax, could leave HFT firms operating in Europe seriously questioning the viability of their business models," warns a PricewaterhouseCoopers report.

A natural response

But perhaps the greatest challenge to the status quo of HFT will come from the market itself. IEX, featured in *Flash Boys*, is just one trading venue that is taking steps to mitigate the low-latency advantage.

New trading venues are increasingly seeking ways to randomise trades. ParFX, Tradition's new foreign exchange trading platform, for example, operates a randomised order entry mechanism within the matching engine, delaying orders, amendments and cancellations by between 20 to 80 milliseconds. At least one new futures platform in London is believed to be considering a similar approach.

Another means of levelling the playing field that is gaining popularity is the batch auction. The brainchild of Eric Budish, associate professor of economics at the University of Chicago Booth School of Business, batch auctions are being touted as a fairer alternative to the central limit order book.

"Frequent batch auctions lead to narrower spreads, deeper markets and increased social welfare," Budish explains. "First, and most centrally, batching substantially reduces the value of a tiny speed advantage, and frequent batch auctions eliminate the purely technical cost of liquidity provision in continuous limit order book markets associated with stale quotes getting sniped."

Change is blowing through the industry. Exchanges are seeking to eliminate unfair advantages. Regulators want to accelerate change but would perhaps be best advised to let the current market evolution take its course. ■

■ FTT: More questions than answers

›› **The spectre of a financial transaction tax (FTT)** has loomed large over the market since the financial crisis. The 'tiny tax that could raise tens of billions of euros', according to its proponents, has been introduced to varying degrees in Germany, Italy and France.

In May last year, 10 more European countries seeking to introduce an FTT agreed to a 'progressive' implementation beginning in January 2016.

But the FTT could potentially have a huge impact on trading volumes, market liquidity, trading strategy and subsequently the business model of many financial services firms.

According to Ajay Mathur, a manager of business consulting at Sapient Global Markets, there remain a number of questions as to how the tax will be structured. "Based on current EU FTT definitions, [the introduction of tax] will impact many functional and technical units," he says.

"There is also the additional extra-territorial application to consider, where financial institutions outside of the EU could be imposed with the tax by entering into a transaction with a financial institution that is established in the participating member state."

The European Commission estimates a 75 per cent drop in derivatives trading when modelling the expected market reaction. It remains to be seen whether the devastation of liquidity will be justified by the political and fiscal benefits.

Empires of the mind

Traditional exchange ownership patterns and market footprints have changed dramatically in the last 20 years. But do current ownership structures limit the empire-like ambitions of certain exchanges and affect their strategic options? By **Brian Taylor**

An empire rules over a significant number of distinct peoples – contiguous like the Mogul Empire or non-contiguous like the old British Empire – each possessing different cultural identity and a separate territory. An empire has flexible borders and an unlimited appetite to swallow and digest more nations and territories without altering their basic structure and identity. But empires also drastically reduce human diversity as imperialism replaces local tribes and/or cultures.

Is demutualisation the key?

On paper, the demutualisation paradigm of the late 1990s and early 2000s opened the doors to exchanges building empires. However, while demutualisation was taking place, regulators in most developed countries were unwinding the monopolistic position of exchanges and the links between exchanges and their direct role as agents of national economic development. Regulators were introducing a new paradigm of competition while the newly demutualised exchanges were quick to respond to shareholder demands by raising fees where they could.

One exception to the competition theme among mature markets is CME with its quasi monopoly in US interest rate futures. Exchanges in Brazil, Hong Kong and South East Asia are also still very much agents of national economic development and are natural or even legal monopolies.

Building an empire when your home core is under significant threat is a challenge. In North America and Europe, exchanges reacted by attempting a series of mega-mergers as a strategic approach to maintain or grow shareholder value. Competition regulators rejected the majority of these mergers on the grounds of either national interest or the re-creation of monopolies, the largest exception being ICE-NYSE Euronext.

Regulators therefore restricted the short-term power of exchanges to become empires while competition eroded some of their product monopolies. So where does this leave exchange ownership structures? And how will exchanges create shareholder value over the next 10 years and return to outperforming global equities?

It is now extremely difficult for exchanges to achieve an increase in turnover that is also EBIT (earnings before interest and taxes)-positive in certain core trading services due to two key external drivers: the regulatory paradigm of 'competition' and new trading models.

The regulatory paradigm of 'competition'

Competition enabled low-cost new entrants to challenge the empire-like behaviour of exchanges at their core. Regulators supported re-mutualised new entrants to overcome the power of near-monopolies. Most new entrants have struggled to be successful businesses – if you define a successful business as an organisation that creates a realisable shareholder value, makes profits and pays all taxes.

BATS in the UK is a good case study. It had to be refinanced several times. Only after it had merged with its biggest competitor and attracted volume through incentive programmes with its mutual owners

was it able to make a profit and pay corporation tax. This took more than seven years from launch.

Competition also facilitated a new blend of oligopoly. Unlike supermarkets, retail banks or petrol stations, which need to monitor the behaviour of their direct competitors and engage in non-price competition to achieve turnover/EBIT growth, exchanges face competition from their core customers who are also competitors. This has had a major impact on an exchange's EBIT, as the sell side is able to cross double-digit percentages of total market volumes without utilising the central market infrastructure and without being a public limit order book or dark pool.

In Europe, the sell side can compete on price improvements of between two and four basis points, inside the effective weighted-average public spread. Exchanges cannot do that while pegging trading to standardised tick-size regimes. In the UK, it has taken the Financial Conduct Authority seven years to understand that the regulations for best execution have not been implemented or regulated fully, with an unfathomable cost to investors.

New trading models

The inexorable growth of high-frequency trading – which allows the creation of unnatural or synthetic spread leeways greater than zero, scattered across a range of venues, for the benefit of the algo creators and at the cost to real investors – has left some European exchanges with less than 50 per cent of the market volumes in the core equity and equity related (including derivatives) trading products. In certain US markets, fragmentation is greater.

The exchanges have also innovated solutions to acquire critical mass for the trading (and clearing) of OTC products and this theme is likely to repeat itself this year in the electronification of fixed income markets. Some of these new services are being rolled out within an element of mutualisation benefits but it is too early to tell what are the best formulae.

Enforced competition by the regulators, re-mutualisation and fragmented high-frequency trading collided with some traditional exchange strategies. Those that were primarily focused on the M&A game and still mesmerised by the old concentration rules lost time and shareholder value, none more so than the original Euronext with its somewhat flat strategy of merging with other European regional markets such as Amsterdam, Belgium and Portugal. The potential growth of their core products in their natural geographies is limited and will not satisfy their shareholders' demands on EBIT growth. Re-mutualisation of these entities, even at a micro-level, via liquidity development schemes cannot recover market share.

The train left the station

Near monopolies will not return where competition prevails. Product diversification is the future name of the game, adding new products and services through below-the-radar acquisitions in domains that the regulator will not object to – for example automating new or OTC markets, clearing, indices, technology, professional services and even intermediation. Where these products and services have a global addressable market they will develop more shareholder value.

CME Group and the London Stock Exchange (LSE) are probably some of the best implementers of this new strategy and some of their product portfolio has empire potential.

CME Group has created global attractiveness of some of its products by offering cross-shareholding or investment, coupled with globally accessible technology solutions. Malaysia and Brazil are major beneficiaries of this strategy, ensuring that price formation can be influenced locally on a global stage with global players. As the cross-ownership has benefited national interests and has not been outright, the strategy is not an international threat to emerging market economies. Indeed by contrast it protects against marginalisation.

The LSE has adopted a different but equally effective approach. It has acquired and will continue to acquire organisations that expand its product and service portfolio and, in common with CME Group, none of the acquisitions is monopolistic. Nor are they a threat to national interests.

> **Listed exchanges first need to return to the position where they can consistently outperform global equities and their domestic indices**

It has undertaken a product-broadening and functionality-expanding acquisition programme, including MillenniumIT (technology), Turquoise (multilateral trading facility), LCH.Clearnet (CCP services) and Frank Russell Company (indices). This strategy has enabled it to significantly outperform the FTSE 100 index in the last four years. Its next move to enforce this trend should be to secure a world-class derivatives presence.

Similarly, Deutsche Börse has adopted a diverse expansionist strategy. Over the years it has linked its cash equity market as an IT service provider to foreign markets, providing those markets with the potential for global access to 500+ members.

Both the cash market and Eurex are linked to a very strong post-trade presence: Eurex Clearing and Clearstream. But their challenge will come when the Central Securities Depositories Regulation, Markets in Financial Instruments Directive II and Target2-Securities open up these venues to greater competition.

Deutsche Börse has also widened into the intermediation space through the acquisition of Tradegate, an intermediary, which has significant untapped potential. More recently, it has adopted a less formalistic approach and dedicated a budget to innovative products, acting as an incubator to Bondcube and GMEX, for example.

It is too early to foresee if such a strategy will be game-changing, but Deutsche Börse needs a number of successful innovations if it is to outperform the DAX. Challenging the decision on the NYSE merger is likely to be of little benefit and it has very little room for growth from any significant associated companies, as it has already acquired STOXX and the SIX share of Eurex. It needs a new expansionist strategy for a new era.

So where does the train go next? Listed exchanges first need to return to the position where they can consistently outperform global equities and their domestic indices. However, to generate shareholder value they need to focus on their product and service base, including the democratisation of their core products, something that has been missed by most exchanges except in certain Asian markets.

The product base is the key to becoming empire-like, after which the ownership structure follows. ■

Will regulation damage an already soft sector?

Market data is essential to transparency. How will new regulations affect this sector? By **Adam Cox**

User numbers are declining, pricing power is weak and cost concerns remain. If you're in the business of providing market data it all makes for somewhat gloomy reading. The low growth in market data revenues seen in recent years bears testimony to the pressures the segment faces in the post-crisis era.

Given all that, you might expect the prospect of increased regulatory requirements to be a potentially large piece of straw on a tired-looking camel. In fact, analysts say that the onset of new regulations poses little threat to this large but slow-growing business segment.

As the revised Markets in Financial Instruments Directive (MiFID II) is finally taking shape, the regulatory spotlight this year is on Europe. MiFID II in its current form contains language about making market data accessible and transparent. But the focus there is post-trade as Europe aims to finally establish a consolidated tape, something which has long been discussed but proven tricky to develop.

That's good news for venues since the post-trade market data area is negligible for exchanges compared to pre-trade provision, according to Arnaud Giblat, an analyst at UBS who specialises in the exchange segment. "The fact that we're seeing a more benign approach from the regulators on pricing has to be a good sign," Giblat says.

European authorities have found that fees for data are higher in the EU than in the US, Giblat adds. But the response to this has been relatively modest. The European Securities and Markets Authority considered three main options: fostering greater transparency, limiting revenue shares or requiring prices to be based on long-term costs. Giblat believes regulation to allow only the last of these three could have had more damaging implications.

Johannes Thormann, an analyst at HSBC Global Research who also covers the exchange sector, agrees that the regulation being discussed doesn't look particularly onerous: "I haven't found major risks for the exchanges," he notes.

However, Thormann is hardly bullish on the outlook for market data revenues. He believes the sector is basically a no-growth business, where banks and venues are locked in a battle of attrition. The banks are constantly looking to cut costs, given all the other issues they face, while the exchanges are trying to squeeze out small price increases to compensate, he notes.

Shrinking user base

Not all exchange groups give figures on their number of users, but London Stock Exchange Group (LSEG) is one of the most transparent. Thormann says that its user base has declined from a peak of around 112,000 in the 2008 financial year to about 76,000.

In addition to price rises, exchanges have sought to make up for the shrinking user numbers by conducting client audits and issuing catch-up billings, he adds.

Burton-Taylor International Consulting LLC, a specialist firm that conducts detailed analysis of the market data industry, estimates that market data and index revenue for exchanges grew 7.1 per cent in 2014 to $3.61 billion. However, that followed two years of growth below 2 per cent.

LSEG leads this segment globally and in Europe, the Middle East and Africa, while Nasdaq heads the field in the Americas and Japan Exchange Group has the strongest showing in Asia, according to the consultancy. Douglas B. Taylor, founder and managing partner at Burton-Taylor, says desktop reductions had a negative impact on vendor revenues in the latest data, easily offsetting the positive impact of price increases.

Still, while Giblat and Thormann both speak in terms of the industry dodging a regulatory bullet, Taylor sees some upside for venues from the regulatory push: "Changing and more stringent regulatory requirements are also driving the need for more data, more transparency and more reporting tools, as well as increasingly sophisticated automated trading capabilities which are creating demand for low-latency, machine-readable content," he says.

Meanwhile, in the US, sales of market data feeds have been in the headlines because of high-frequency trading practices. Some critics have alleged that players gain an advantage by being able to calculate the National Best Bid and Offer faster than the Securities Information Processor or SIP under the Regulation National Market System.

> **"While the market data sector may be constrained by widespread cost-cutting efforts, there are some bright spots**

But while that debate has generated plenty of attention, thanks in part to the best-selling book *Flash Boys* by Michael Lewis and a high-profile lawsuit against a number of top exchanges, there is currently little sign of game-changing regulation emerging.

Indices in focus

While the market data sector may be constrained by the widespread cost-cutting efforts by financial firms, there are some bright spots. "The real race – the arms race, I suppose – is for indexes," says Giblat. The idea is simply to gain exposure to the fast-growing exchange-traded funds (ETFs) segment.

"In Europe," Giblat continues, "the passive asset management segment constitutes about 10 per cent of assets under management, and clearly MiFID and general regulatory trends are favouring a further entrenchment of passive growth. So ETFs are clearly a beneficiary of that."

ETFGI, a consultancy that specialises in research on ETFs and exchange-traded products (ETPs), says the global ETF/ETP industry reached a record $2.76 trillion in assets late last year. The group expects assets to break through the $3 trillion milestone in the first half of this year.

"The higher value market data segment, like providing indices, is a key area of focus for the exchanges, simply because it's a growth segment," Giblat adds. "ETFs have huge growth potential. So if you think about equities, for example, they are quite a well-benchmarked segment. But fixed income isn't. Certainly there's a lot of scope for more indices."

Thormann agrees there is room for more fixed-income indices. He says the question is who would build and market them, as an index's popularity has much to do with who develops it. LSEG, the owner of a major bond-trading platform, is one exchange group that could conceivably go down this route, Thormann opines, along with information providers such as Bloomberg and Markit.

And Giblat notes that LSEG's $2.7 billion acquisition of Russell Investments, which owns the Russell 2000 index, was an example of how exchanges are recognising the importance of indices in the current business climate. ■

Also in this section:

Remodelling the brokerage

New regulations have tilted the axis of the brokerage world, forcing intermediaries to re-evaluate their business models and make some tough decisions. By **Jon Watkins**

Costs facing brokers have increased substantially through this lengthy period of regulatory change. Meanwhile, the profitability of some of their services that thrived in the pre-crisis world has diminished beneath pages of complex new regulation.

The amalgamation of exchange-traded and over-the-counter (OTC) workflows has added a new layer of complexity to how brokers operate. The European Market Infrastructure Regulation (EMIR) and the Dodd-Frank Act in the US both require the mandatory central clearing of swaps, and have subsequently hiked the need for capital in today's derivatives markets.

Add into the equation mandatory initial margin payments for both cleared and non-cleared derivatives, in addition to charges imposed by Basel III for non-collateralisation, and it is evident how regulations and the increasing need for capital have weighed heavily on the broker business.

"If you had Basel III on its own there would have been an impact. If you had EMIR or Dodd-Frank on their own there would again have been an impact. But all three is just a punch to the jaw for the brokers," says Justin Llewellyn-Jones, chief operating officer and global head of derivatives at Fidessa. "Not only do they have less capital to work with, they also have all the market structure changes increasing the operating cost of doing business."

The cost of posting and sourcing collateral, along with the operational difficulties, has forced brokers to revisit their models and place a large emphasis on seeking capital efficiencies. While cross-margining and portfolio compression opportunities are presenting themselves, ultimately the cost of this process is hitting profits and affecting the onboarding of clients.

"Before the crisis, some firms were trading with leverage of 30 or 40 times and that is not acceptable these days to regulators, shareholders or to anyone," says Alan Cameron, head of relationship management, international banks and brokers at BNP Paribas Securities Services. "The amount of capital you now have to put up is increasing substantially, with the latest chapter being putting capital up against intra-day liquidity. The other thing they are now looking at is how they can restructure their businesses to be more capital-efficient."

With brokers acting as the agent between their clients and the central counterparty (CCP), one of the major changes they have faced is having to adopt agency-clearing models for the central clearing of OTC derivatives, representing a major change from the principal-to-principal market model used previously.

The result of such a seismic shift for brokers has been in-depth analysis and evaluation of brokerage models and subsequent moves to scale back some of their operations, or pull out completely.

For example, BNY Mellon took the decision to close its European exchange-traded and OTC derivatives clearing unit in October 2014, while RBS made a similar move, pulling out of OTC clearing earlier in the year. Both attributed the exits to rising operational costs and investments that would not reap lucrative returns. Jefferies has also said it is in talks to sell its commodities and financial derivatives brokerage, despite investing heavily in it just a few years earlier.

"Some futures commission merchants are refocusing on lines of business where they have a competitive advantage or that are necessary functions for pursuing their primary strategies," explains Frederic Ponzo, managing partner at consultancy firm GreySpark Partners.

"You can scale down execution services because the cost of an electronic platform is set," he says. "Clearing is different and the fixed costs are higher. The size of the

boulder you have to carry is bigger than on the execution side, so you see people having a more binary approach, which is 'stay in it or get out of it'."

Another area being scrutinised by brokers is their CCP memberships. The price of connecting to clearing houses and contributing to default funds is another expenditure for the already-squeezed intermediaries. BNP Paribas' Cameron believes these memberships present another saving opportunity: "One of the first areas the brokers are looking at to simplify their life is to get out of some of these clearing memberships, and it is similar with exchanges, even though it is not quite as expensive," he explains. "Although we are talking about the consolidation of the industry's infrastructures, we do not see this happening. It is very expensive to connect up to all these separate CCPs."

> **After assessing their business models, many brokers found that clearing and execution have become services they as intermediaries must provide**

It is no secret that clearing services have become less profitable, while the space has also become rife with competition. For those who decided not to head for the exit, after assessing their business models many brokers found that clearing and execution have become services they as intermediaries must provide, as part of a wider array of offerings to maintain clients.

"There is a group of tier-one institutions that have made their name out of being full service providers so it is difficult for those people to step away because that is basically how they are making their money," says Llewellyn-Jones. "I think the brokers making the fundamental decisions about whether they are going to be in the business or not have made their mind up, and in 2015 people will be looking at maintaining a level of service."

Waiting game

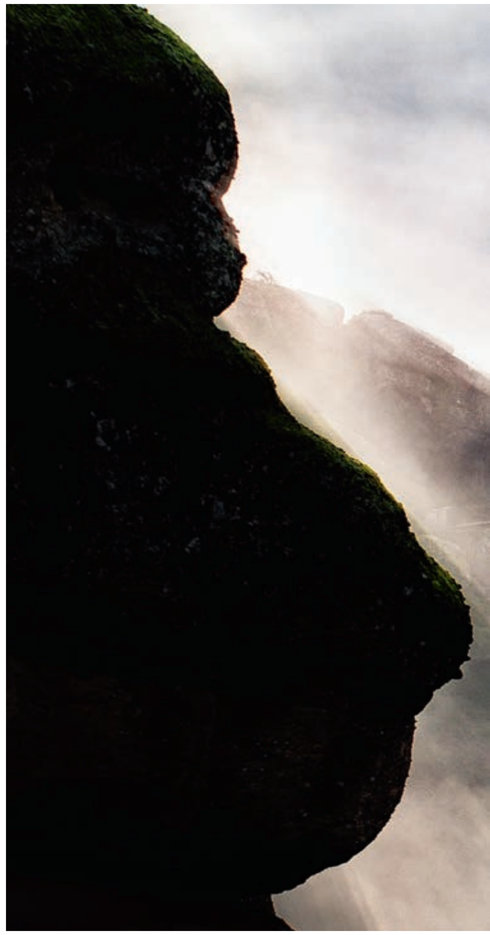
Those maintaining their services are playing the waiting game, according to Ponzo. He believes those continuing to offer services are positioning themselves for a market revival. "The proportion of market share between the big five brokers is increasing and they are gradually gaining more power over their clients, which means they can charge enough on clearing and execution to cover their costs and stay in the game," he explains. "They are maintaining their position through market share and covering their costs but not necessarily making a profit and waiting for the monetary policy change."

With the big tier-one brokers staying firmly in the game, one thing that is changing within their model is the clients they take on. Onboarding and clearing for clients has become expensive, causing some brokers to set fixed prices for their services and increasingly scrutinise to whom they are willing to provide services. Those clients who didn't make the cut have taken their business to tier-two brokers who take a different view on their risk and opportunity.

"Brokers are taking a really long and hard look at their clients, assessing their risk profile and trying to opportunity cost as well," Llewellyn-Jones adds. "I think they are doing a lot of soul searching. I guarantee you will see these larger banks shedding clients that will fall below that line they have drawn."

Segregation saga

New rules designed to protect assets will reduce rather than eliminate risks, but at what cost? By **Chris Hall**



The prolonged saga over assets frozen by the Lehman failure, the high-profile collapse of other futures brokers since 2008, and the shrinking number of firms willing and able to clear both over-the-counter (OTC) swaps and listed derivatives are just some of the reasons why asset protection is now a major customer priority. While Lehman put investors on their guard, the subsequent bailout led governments to prioritise choice, transparency and client protection when drafting new derivatives trading rules. Nevertheless, new rules have unintended consequences and new structures have not been tested.

Starting with interest rate swaps this year, the European Market Infrastructure Regulation (EMIR) requires users of standardised derivatives contracts to clear via a central counterparty (CCP), albeit allowing some exemptions. Following re-authorisation under EMIR, CCPs must offer individually segregated accounts (ISAs), strictly defined to offer maximum asset protection, in addition to existing omnibus-segregated accounts (OSAs). Brokers must provide access to, and help clients identify, the most suitable clearing options. This is easier said than done, due to uncertainties over the costs and benefits of different levels of asset protection, and the ability of CCPs to withstand the new pressures imposed upon them.

By selecting an asset-based ISA, a client is all but guaranteed to get back the identical securities it posted as collateral at a CCP to cover margin in the event of default by the CCP, a member broker or a client of such. But the securities cannot be used in any netting arrangements to minimise the amount of collateral posted by a client or broker, nor can they be put to any revenue-earning uses, unlike in OSAs, which are subject to bilateral agreements.

As clients have baulked at the high cost of maximum protection, CCPs have rolled out omnibus variations that offer varying risk profiles and price points.

"Some clients are satisfied with the level of asset protection that certain types of OSA can offer," says Eugene Stanfield, head of fixed income and currency derivatives clearing and execution services at Commerzbank in London. Although there are a number of remaining differences, CCPs are offering three main types of OSA: a gross OSA, in which the margin for multiple clients is calculated separately per client and the clearing member posts the total sum to the CCP; a restricted OSA, which is similar to a gross OSA but limits the number and type of clients sharing any account to minimise risk; and a net OSA, which is similar to the existing account for exchange traded, where the positions of all clients are netted to calculate the margin requirement.

While clients have visibility on the other members of a restricted OSA, dependent on the CCP they face different levels of risk by selecting a gross or restricted OSA. "Although CCPs are developing OSAs that remove cross-client risk exposures, there is still the potential within these accounts for clients to wear the replacement risk for bonds they have posted as collateral in the event of the default of a clearing member, for example," says Stanfield.

Client feedback to date is mixed. "Although most asset managers are likely to favour ISAs – for example KAGs [capital management companies] in Germany are legally required to use ISAs – other clients may be comfortable with the reduced risks offered by the recently developed OSAs," Stanfield explains. "For many clients, such as corporates, it is too early to identify preferences, in part due to their exemptions. At this stage, the broker must maintain engagement with the corporate client and provide ongoing education and detail on the account structures and models as they evolve."

The fluid and unproven environment makes it hard for some investment companies to provide protection to end-clients' assets. "Ideally, we're looking for cost-effective full segregation of our clients' assets", explains Barry Hadingham, head of derivatives and counterparty risk at Aviva Investors. "We're not clearing with any European CCP yet, but the day is drawing closer. We're reaching out to brokers to find out how solutions are evolving. We're looking to them to provide choice and access to solutions, as well as insight into costs and robustness of account structures," he says.

While some end-investors have "zero appetite" for asset losses, Hadingham acknowledges that there can be few cast-iron guarantees on asset protection at this stage. Transit risk and bankruptcy law are just two of many untested imponderables, but uncertainty is no excuse for inaction. Aviva has explored the possibility of an omnibus account that ringfences the assets of its end-investors from other clients of the clearing broker, an initiative that remains a work-in-progress at present. Internal processes are also being improved to protect client assets. "In the past, record-keeping at some clearing firms was insufficient to identify beneficial ownership of assets, even if they were adequately segregated," says Hadingham. "Now, institutions are very focused on having good record-keeping processes in place."

> **"The fluid and unproven environment makes it hard for some investment companies to provide protection to end-clients' assets**

But the strict delivery and reporting processes for ISAs are putting pressures on brokers that will eventually be felt by clients too, according to Richard Wilkinson, director of post-trade solutions at Contango. "ISAs add cost and complexity to the sell-side. Even cash is no longer fully fungible. The clearing broker will have to tell the client to instruct it to move and post cash, rather than using an auto-repay process as at present. At the same time, the brokers are losing excess margin that was previously sitting in omnibus accounts. ISAs effectively redefine clearing brokers to agents rather than acting as principal, with obvious consequences for revenue – and the pricing of ISAs," he says.

As well as ISA/OSA pricing, Commerzbank's Stanfield expects EMIR's framework for indirect clearing to evolve during 2015, but notes a rethink among some non-direct member firms that had explored the possibility of offering indirect clearing services to their end-clients. "With the exception of certain requirements such as default management, which is very much within the clearing broker skillset, there is relatively little difference between indirect and direct clearing membership in terms of processes, risks and reporting requirements to be managed," he explains.

"As such, a number of firms that were initially interested in becoming an indirect clearing member have begun to explore alternative approaches once they realised how much work was involved." ■

Go large, or specialise?

Stagnant volumes, lower margins and higher regulatory and operating costs add up to a challenging environment for all brokers, large and small. By **Chris Hall**

Brokerage economics have been altered fundamentally by the post-crisis settlement for the derivatives markets, and many imponderables still remain.

The high costs and low revenue opportunities of providing access to individually segregated accounts (ISAs) and the loss of margin-based revenues may be front of mind as the central clearing requirements of the European Market Infrastructure Regulation go live this year, but pressures on brokers' capital and operating costs abound.

The Basel Committee requires banks to capitalise their trade exposures and their default fund contributions to central counterparties (CCPs) from 2017. The Basel III leverage ratio framework currently includes segregated margin, which will result in "a significant increase" in the capital required for central clearing. The failure of US and EU regulators to mutually recognise CCPs authorised by the other jurisdiction could send capital requirements for clearing brokers even higher if no resolution is found by June. Moreover, concern over CCP recovery and resolution could lead to greater default contributions from brokers.

Already, the operating costs of connecting to data repositories, CCPs and trading venues to facilitate central reporting and clearing of over-the-counter (OTC) derivatives is putting a huge strain on brokerage resources. A recent survey of global futures commission merchants (FCMs) by TABB Group found that anticipated revenue synergies from clearing swaps traded on US swap execution facilities were largely illusory. "This was the golden ticket that FCMs were looking for and was supposed to fuel FCMs' coffers for years. The problem is, no one showed," the report observed.

Higher capital and operating costs plus uncertainties over volumes and margins seem a recipe for oligopoly, even though concentrating clearing risk and revenues in the hands of fewer providers was clearly not an intended consequence of post-crisis reforms. Certainly, larger bank-owned FCMs are looking to absorb the cost of adjusting to the new world by generating fees and volumes across multiple related product lines.

A good number have already restructured, knocking down walls between silos to offer a more coordinated suite of services and instil a more disciplined approach to capital efficiency. One example is Citi. In late 2013, the firm created a new global investor services division, which houses futures, OTC clearing, collateral management, prime finance, custody and fund services under the same roof. Jerome Kemp, Citi's global head of futures, OTC clearing and collateral, believes the firm has achieved advantage by responding quickly and decisively to the new terrain.

"We're putting capital efficiency at the centre of what we do – and that extends through to the client too," he says. "Offering bundled services via a broad platform is more capital-efficient for the broker, but it also makes us more effective in delivering value to the client, for example supporting better management of their exposures via means such as cross-product netting."

David Escoffier, CEO of Société Générale Newedge, says buy-side demand as well as sell-side economics are factors in the evolution of brokerage business models. Newedge became 100 per cent owned by Société Générale in 2014, and has since been working to combine its execution and clearing services in listed and OTC derivatives with its parent's existing capabilities.

Whether they are hedge funds, pension funds or insurance firms, says Escoffier, the vast majority of institutional investors are searching for returns on a cross-asset, global basis. They are also under increasing

> **Higher capital and operating costs plus uncertainties over volumes and margins seem a recipe for oligopoly**

cost pressure from regulatory change and modest returns. In such circumstances, many will look to concentrate more of their business with fewer, global providers. "If you're already clearing futures through a large global firm, it is logical to clear OTC swaps through this existing relationship and benefit from any netting opportunities between the two activities," he explains.

Level playing field?

Beyond these synergies, bank-owned FCMs must deploy effectively the scarce resources key to their advantage over smaller firms, i.e. technology and capital. Société Générale's services now include market-making, capital introduction and risk capabilities. This leaves only services that do not require volume and scale, such as certain aspects of execution brokerage, for example in small cap equities or very exotic futures, for smaller providers. "Specialisation will not disappear," Escoffier opines. "Clients will always value the tailored services of smaller brokers. But it will become harder for specialists to survive."

But scale is not the preserve of bank-owned FCMs, argues Steve Martin, COO of GH Financials, which has built a global franchise over the last 20 years to become one of the largest clearers on a number of US and European exchanges, in part by leveraging technology and operational efficiencies. "While many firms remain highly complex, commission focused and weighed down by legacy technology and back-office issues, our business model is based on a unified global approach to P&L, risk management, clearing operations, data management, etc," he explains. "This is good for client service and for minimising overheads."

Moreover, Martin suggests the post-crisis environment might offer a more level playing field to non-bank FCMs as the futures arms of banks struggle with new capital burdens.

"We believe there is an opportunity for us in swaps clearing, subject to capital and default arrangements of CCPs," he says. "The introduction of ISAs removes one of the hurdles to clients selecting a non-bank FCM. We believe there is room for a blue-chip independent to go toe-to-toe with the banks as a global clearer. We may not offer prime brokerage or certain other services, but our volumes show there is no shortage of business for non-bank FCMs. On the contrary, the overheads faced by many banks mean clients that don't want to buy multiple products are having to look elsewhere."

Citi's Kemp acknowledges that higher capital costs pose challenges to both the buy and sell side. Although discussions with regulators continue, the direction of travel is clear. "As the clearing mandate finally comes into force in Europe, clients are now looking to ensure they can access eligible collateral in order to margin a growing range of centrally cleared instruments," he notes. "Many may already have their clearing mandates in place, but they need to consider that the clearing universe will continue to expand: to NDFs [non-deliverable forwards], for example, and perhaps repos." ■

Diversity dangers

The evolution of very high levels of standardisation in exchange-traded derivatives markets may be interrupted by the new regulatory requirements. By **John Parry**

It's not often in any given industry that every service provider has to go back to all its clients and renegotiate its entire service offering. But the implementation of the European Market Infrastructure Regulation (EMIR) in particular is introducing fundamental changes to the relationship between customers and clearing brokers as new rules seek to reduce market risk levels. And although the major new regulatory changes are required of central counterparties (CCPs) and clearing brokers, these inevitably pass down to end-users.

What the architects of EMIR probably never imagined is the

> What the architects of EMIR probably never imagined is the granularity of change required by customers

granularity of change required by customers. The provision of clearing services in both exchange-traded derivatives (ETD) and over-the-counter (OTC) products requires the clearing broker community to intermediate CCP services to the clients.

Much debate has already focused on the non-standard nature of CCP clearing services. Every CCP has a different client account model from other CCPs. Similarly every clearing member will have their own client agreement formats. An end-user customer of clearing services across a range of asset classes on different CCPs will almost certainly also be using more than one clearing broker. The proliferation of clearing agreements this requires is a daunting prospect for customers, particularly smaller clients who may not have the in-house legal resources to evaluate them in detail, according to one UK asset manager.

Such variances are defended in the name of competition but there is no question they are going to add significant cost to the onboarding process. FIA Europe has indicated it is working on standardised broker-client documentation but this may not be in place much before 2017.

The main reason for this reorganisation of the broker–client relationship is the fundamental shift in risk-carrying that is required as a result of EMIR and other pressures. The traditional ability of futures brokers to mutualise the risk from a client or fellow broker default in return for profiting from the income from margin assets on deposit has ended. In principle, EMIR requires that client margin collateral is now held at the CCP.

But the mechanics of this arrangement add to the clearing broker's risk. The clearing member's exposure to the CCP is partly determined by the so-called Capital Exposure Method, formulae for risk-weighting assets on the basis of their type and term. Broadly, longer-dated and riskier assets will carry a greater risk weighting. There is also an imbalance in the exposure of the clearing member to the CCP as opposed to the exposure of the end-customer. If the latter fails to meet a margin call on an open position, the CCP still has a legal claim on the clearing member to meet that call, despite the fact that under the new model the clearing broker will not be holding any customer assets.

Additionally, "Clearing brokers are incurring higher capital costs, as from 2015 CCP exposure will go on the balance sheet," says Jan Bart de Boer, chief commercial officer at ABN AMRO Clearing. "This is adding a significant per cent to established firms' capital requirements. Maintaining profitable returns on equity therefore requires higher clearing fees."

Opinions in the industry vary on these higher bank capital requirements, but increases in bank capitalisation of 30 to 40 per cent are discussed. Ratcheting up big number credit ratios is something of a blunt instrument approach, however, with one clearing member noting that a long-only fund manager who puts up cash margin will exert a higher credit charge on a clearing broker than a multi-asset hedge fund trading shorter-term instruments.

The defining message of the new regulations, according to de Boer, is that they are creating safer markets not only via transparency and the use of CCPs, but also through the core feature of having higher capital requirements in the system. "Clients understand that and will recognise the need to pay for this security, in both senses of the word," he says.

Operational challenge

Clearers setting out to clear both ETD and OTC instruments also face interesting challenges. "Existing clients are clearly more easily accommodated into OTC clearing by virtue of the bank having

already performed credit reviews and compliance checks," explains Lee McCormack, OTC clearing business development manager at Nomura. "This reduces the revenue hurdles needed to make clearing worthwhile."

Similarly, although the size of the OTC market in nominal terms is larger than ETD, in practice there are more futures market users than OTC market users, McCormack notes. "Many OTC users are often experienced in both markets, making their transition to mandatory OTC clearing fairly straightforward. Only some small OTC-only users or institutions prevented by their articles of association will be unfamiliar with the requirements of clearing."

Industry concern remains that some smaller clients, such as a money manager or regional bank, may find it difficult to secure a clearer directly, simply because they have insufficient business scale. One solution, McCormack suggests, "is the growth of aggregators who are able to bundle small clients together into a reasonable volume."

"Although the timetable for mandatory clearing is firming, there remain many variables to contend with

Another route for them might also see smaller customers, daunted by the high costs of OTC clearing, "looking at futures equivalents, although here again, the initial set-up and account management costs will not be that different between OTC and futures," he says.

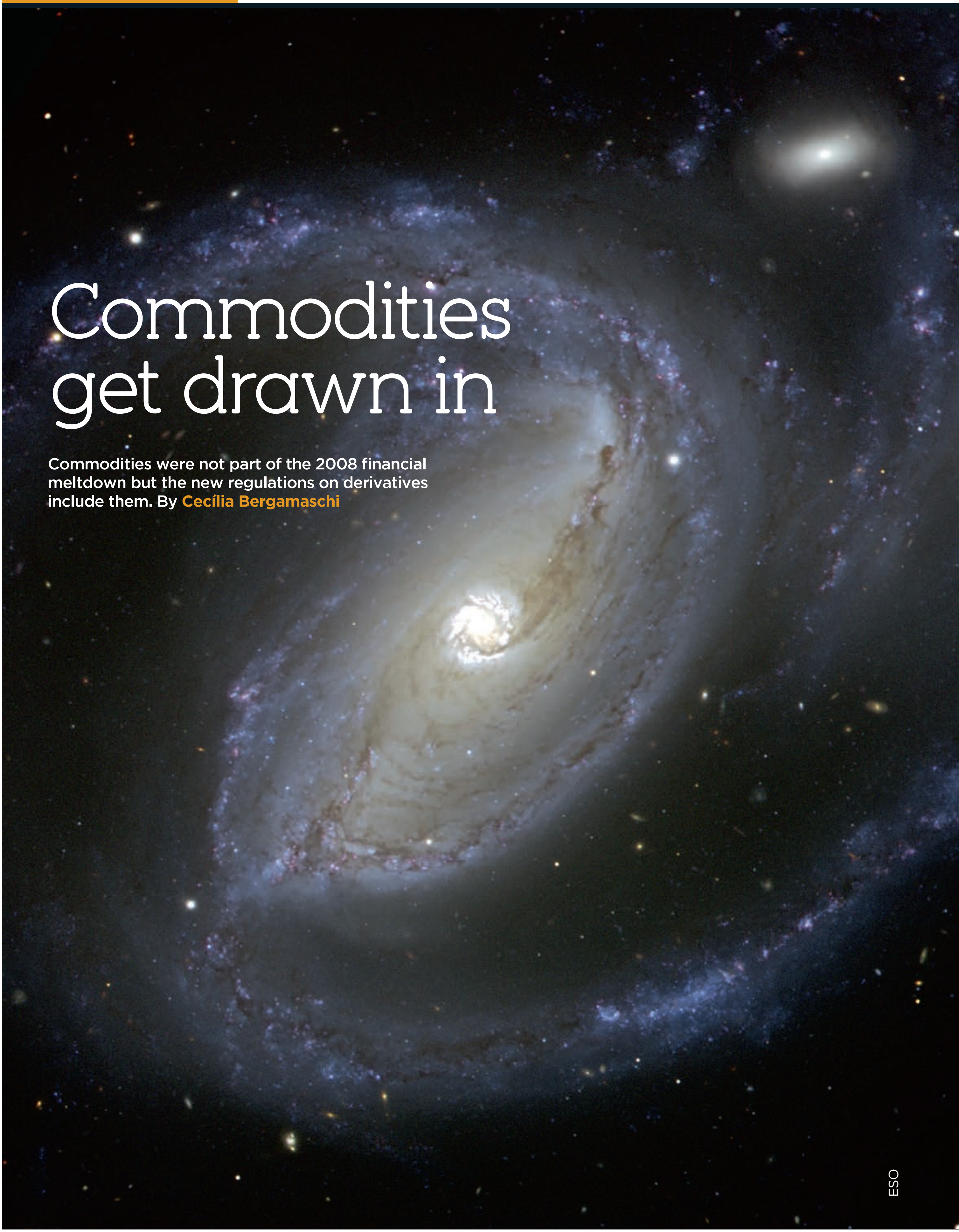
De Boer agrees there are flexible solutions waiting to be developed that will potentially dilute the threat of high OTC clearing charges due to operational inefficiencies. "Smaller clients in particular may find lateral solutions by using closely equivalent futures to replicate what they previously used OTC markets for." Even if they stay with OTC products, he argues, it is possible that in a short time the current high-cost, big-bank providers may be competing with new, lower-cost, specialist operators.

Meanwhile customers and brokers alike are looking at a range of unknowns. Although the timetable for mandatory clearing is firming, there remain many variables to contend with. The debate on the nature of clearing accounts in Europe – omnibus or individually segregated – swings from month to month. Early-stated preferences among the UK asset management community for ISAs, for example, tended to fade as their cost and complexity became more apparent.

More recently, the experience of ETD customers of decades of omnibus accounts mollified some customers in the new regime. Familiarity with that process provides operational comfort for customers but the fact that the clearing broker no longer carries client assets has fundamentally shifted the ground.

McCormack argues that the ISA/OSA debate has come full circle. "As we approach the clearing deadlines, the cost variations between the ISAs and OSAs may not be as significant as originally expected. Given the genuine concern of clients for high levels of asset protection, this suggests ISAs are back in favour. However, ISA costs may still be a factor for price-sensitive smaller clients, particularly those already familiar with the traditionally secure omnibus account operations of established futures markets," he says.

It seems that clearing brokers are, sensibly, giving up a one-size-fits-all model of customer service and engaging in a great deal of detailed hand-holding instead. ■



Commodities get drawn in

Commodities were not part of the 2008 financial meltdown but the new regulations on derivatives include them. By Cecília Bergamaschi

Though not specifically intended for commodity markets, new regulations designed for the financial industry after the 2007–2008 global crisis are nonetheless affecting them. Users in this traditional business are having to adapt to comply with these gradually implemented rules, notably the European Market Infrastructure Regulation (EMIR) and the US Dodd-Frank Act.

The new requirements are making western banks focus on facilitating business between producers, consumers and investors, rather than taking proprietary risk. By being more controlled and taking fewer risks, the institutions are dealing with lower profits in the commodities space, says Nic Brown, head of commodities research at corporate and investment bank Natixis. The commodity business is therefore being increasingly driven away from banks and exchanges, he argues. Some institutions have even moved out of this traditional market.

Companies that are not under the same degree of regulation or capital requirements are becoming the new links between the physical and the financial worlds. Trading houses such as Trafigura, Glencore and Louis Dreyfus are able to choose the best locations and take a flexible approach to different regulatory and tax accounting regimes around the world, making it difficult for banks to compete with them, says Brown.

As the regulatory net tightens further on the banking community, it also has the potential to affect other users of commodity markets. Some of the legal procedures required by EMIR and the Markets in Financial Instruments Directive (MiFID) II in Europe might represent a challenge for small and medium firms.

> **As the regulatory net tightens further on the banking community, it also has the potential to affect other users of commodity markets**

Commodity hedgers are likely to have been recently contacted by their brokers with requests to agree a whole raft of new paperwork, says Alex Culley, deputy head of compliance at derivatives broker, Sucden Financial. The documents include revised terms of business or stand-alone clearing modules, portfolio reconciliation and dispute resolution agreements, as well as trade reporting agreements, where applicable. “Such paperwork deals with complex subject matter which may present difficulties to small and medium-sized commodity hedgers, especially if they don’t have in-house legal and compliance expertise,” Culley explains.

In addition, if a commodity hedger is established in the EU and uses the delegated trade reporting services of its broker to meet its trade reporting obligations, it will need to implement a system to check that its broker is correctly submitting the trade reporting data to the trade repository on its behalf, Culley says.

New regulations almost certainly mean new capital requirements for market participants, which can affect prices, and EMIR, MiFID II and Dodd-Frank are no different. Commodity derivatives users may now also face new costs for trade reporting and clearing as well as general expenses such as new compliance routines and putting in place systems to meet the operational requirements, he says.

The degree to which the new obligations influence the businesses varies, however. There are exceptions, as genuine commodity hedgers are generally excluded from the more onerous rules and capital requirements. Most of them are likely to fall within the category of non-financial counterparty minus (NFC-), according to EMIR regulations.

These are unlikely to exceed the threshold for commodities derivatives, which is €3 billion gross notional value of the average rolling position over 30 working days, Culley explains. NFC- commodity hedgers are also exempt from clearing obligations, the need to exchange margin on a bilateral basis, enhanced trade reporting requirements and the stricter portfolio reconciliation obligations, he says.

More disclosure

In spite of such exemptions, genuine commodity hedgers are now subject to a higher degree of disclosure. And even though end producers and consumers are protected from some of the regulations and capital requirements, they are still caught by many of the tighter rules and, equally, some of the increasing costs are passed on to them, says Brown. EU entities that operate in commodity derivatives have to report the basic details of trades to a trade repository, regardless of whether or not they are NFC-, adds Culley.

With all these requirements, some industry observers argue that the regulatory developments are causing the commodity markets to shift to new areas such as Asia, where most of the more onerous obligations may not reach. For Brown, it has already happened. China now consumes around 40 to 50 per cent of many raw materials. More rapid growth is taking place in developing countries than in the US, Europe and Japan, he says.

According to Brown, the trend towards China should continue. Despite its slower growth rate – around 7 per cent – it still represents a substantial market due to the sheer size of its economy, he says. It would not be a surprise to see commodity markets gradually shifting further towards China, he says, as the country opens up and becomes more transparent.

> **Russia's struggle, after falling oil prices, sanctions and the collapsing rouble, illustrates the influence that commodity products have upon some companies and economies**

For Culley, though, all G20 members should eventually end up with very similar regulatory regimes, regardless of the cultural differences – which have an impact on how regulations are interpreted and implemented – and the varying levels of sophistication of the legislative and regulatory mechanisms. Most of the current regulations that affect the derivatives markets in the EU stem from commitments taken at G20 level to minimise regulatory arbitrage.

"All other G20 nations have committed to implement reforms similar to those contained in the EMIR and MiFID II, accounting for all of the major financial centres where commodity derivatives are traded," Culley says.

Going forward, Brown sees a different scenario: markets should, at some point, move back towards deregulation, allowing western banks greater freedom to compete on a more level playing field. "The regulatory pendulum swings: you get periods of laissez-faire and you have times when the markets are very tightly regulated. This has been a feature of the financial markets for the last 50 years," he says.

The commodity markets, more specifically, should remain an essential part of the underlying economic framework, despite currently being overshadowed by financial and equity products. The fact that commodities played no part in the financial crisis does not mean that they won't affect the next one, emphasises Brown.

Russia's economic struggle in 2014, after falling oil prices, sanctions and the collapsing rouble, illustrates the influence that commodity products have upon some companies and economies. "If you look at the effect of oil prices in certain major oil-producing countries, where governments depend on the oil revenue in order to balance their annual budgets, you can see the immense pain felt in places such as Russia," Brown says.

Commodity movements such as this can potentially affect credit risk through the world's financial markets. And while it involves a much smaller share of the global GDP in comparison to the global crisis, it does have a significant impact in the global economy. ■

MiFID seeks to capture more commodities business

» **MiFID I** set conditions under which firms undertaking commodities trading activity would be exempt from falling under the directive's requirements provided they met certain criteria under the 'ancillary activity' definition. The latest MiFID II consultation, released at the end of December 2014, has introduced stricter criteria to capture more commodity market participants.

Under MiFID II, an activity will be considered to be ancillary to the main business as definite in Article 2(1)(j) of the directive, if: "the capital employed by the group for carrying out eligible activity in the European Union accounts for less than 5% of the capital employed for carrying out the main business in the group in the European Union and in third countries."

This is substantially lower than the previous threshold set in the summer consultation paper of 50%.

An additional 'ancillary activity' test is based on a firm's trading activity when compared to the overall market. This compares a firm's EU trading activity with the overall EU market in eight classes – metals, oil and oil products, coal, emissions, gas, power, agricultural products and freight. If a firm exceeds a 0.5% threshold of trading in any class of these products, it triggers MiFID II for all classes.

Firms must satisfy both tests, but if they exceed the market share test, the first test disapplies.

In order to determine whether they need to become authorised under MiFID II, firms need to consider data collected between 1 January and 31 December 2016. As MiFID goes live on 3 January 2017, they will only have one working day after the data is collected to determine if they require authorisation as an investment firm. Trading without such authorisation after 3 January 2017 will be a criminal offence and any contracts entered into at that stage may be voidable.

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Global changes in commodities

Substantial shifts not directly related to regulatory changes are taking place in global commodity markets. By **Vanya Dragomanovich**

In no other commodities have the changing global economic landscape and the fast growth of Asia been reflected as strongly as in base metals. The process started in 2012 with the Hong Kong Exchange (HKEx) buying the London Metal Exchange (LME) and it has not lost pace since then.

HKEx's dynamic chief executive Charles Li has made it his mission to establish Hong Kong as the link between Chinese exchanges and the rest of the world, starting with equities and expanding into commodity derivatives including oil, base and precious metals and potentially coal.

A key stepping stone was the launch of Shanghai-Hong Kong Stock Connect in November 2014, a trade channel that allows both overseas and mainland Chinese investors to buy and sell shares listed in either Shanghai or Hong Kong and to clear trades in their domestic market.

Now the two exchanges are waiting for the green light from Chinese regulators to do the same for commodity derivatives. An oil futures contract was the first to be approved, and decisions on other derivatives contracts is expected in the first half of 2015.

China dominates metal markets with close to half of the total global demand for some of them. However, on the LME, which accounts for over 80 per cent of global exchange-traded metals futures, only three of the 96 member companies are Chinese. This is partly down to internal Chinese restrictions that allow only a limited group of state-owned enterprises to trade abroad, but also stems from a lengthy and costly process of obtaining membership for two exchanges that operate under different regulators.

The HKEx is working to deliver a low-cost way for existing HKEx and LME members to become a member of the other exchange.

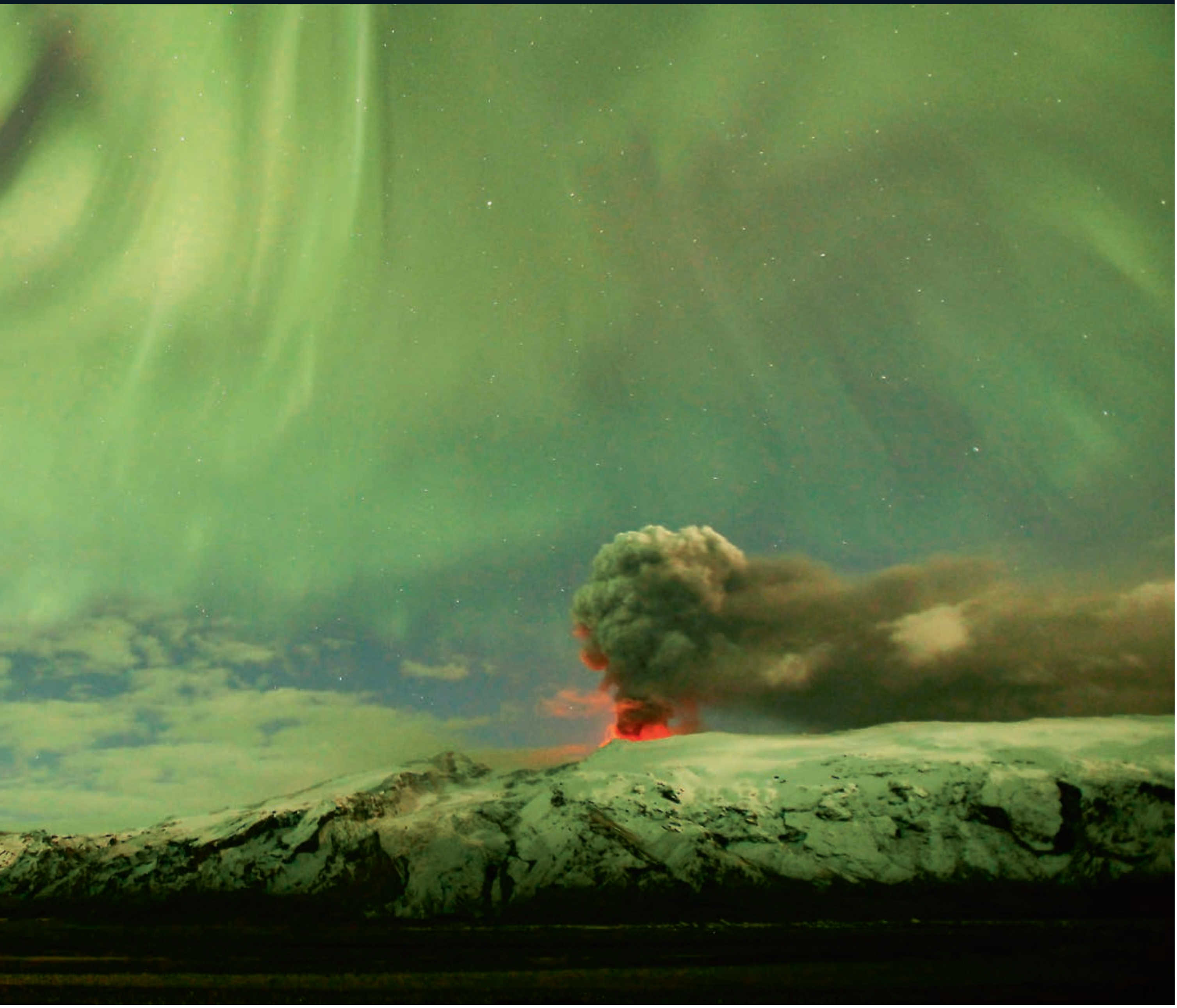
Anecdotally, the most dynamic growth in commodity trading is currently taking place within Asia, between China and some of its fast-growing neighbours, rather than between China and Europe. The EU is looking at stagnant or even negative GDP numbers this year, while the US economy is stronger.

Although the US dollar is still the currency of international trade, given the sheer volume of commodities being bought from and sold into China, the renminbi is set to rise in importance, particularly for trades within Asia. Going forward, exchanges that are able to offer renminbi-denominated contracts will have a significant advantage. HKEx, for instance, launched renminbi-denominated copper, aluminium and zinc futures contracts in late 2014.

Across commodities, the exodus of banks prompted by more rigid regulatory requirements continued throughout 2014. By the end of the year Barclays, J.P. Morgan, Morgan Stanley and Deutsche Bank had pulled out of some if not all of their commodities trading.

The void left by exiting banks continued to be filled by trading houses such as Switzerland's Mercuria, which bought J.P. Morgan's physical trading unit, and Glencore Xstrata. The trading arms of big commodity producers such as BP, Shell and Total, and BHP Billiton in metals, also increased their market share in derivatives trading and market making.

Although trading houses and the trading arms of producing companies will play a significant market role in



the short term – for durations of up to a year – banks remain the bigger participants for long-term hedges.

"Banks are still the bigger players when it comes to long-term hedging and project finance because they have the balance sheets to back those kind of deals," says Harry Tchilinguirian, global head of commodity markets strategy at BNP Paribas.

Physical shifts

In the oil market the changing patterns of physical supply and demand have played a bigger role than global economic growth, and those changing patterns finally took centre stage in 2014. The rapid expansion of the shale oil and gas industry in the US and increased production in Canada has reduced the US dependence on oil imports from OPEC countries. This caused a slow decline in oil prices over the course of 2014, tilting into a full crash over the turn of the year after OPEC decided to take a stand and refused to cut production to prop up prices.

> Given the sheer volume of commodities being bought from and sold into China, the renminbi is set to rise in importance

According to the US Energy Information Administration, countries in the Middle East are able to produce a barrel of oil equivalent for a total cost of around $17, while on-shore US producers are facing costs of around $32/bbl. Some analysts believe that the US numbers are closer to $45/bbl and even higher for some Canadian producers.

Brokerages and users of the London Gold Fixings, Silver Fixings, and Platinum and Palladium Fixings are grappling with the three provider models, which is proving arduous and expensive

BNP's Tchilinguirian expects that low oil prices will trigger significant reserve buying from China, one of the world's biggest oil importers. China is in the process of building three strategic oil storage facilities, the first of which was completed late last year and holds about 91 million barrels of crude in four locations.

"In 2008 and 2009, when oil prices fell to similar levels, China stepped in and bought oil for national reserves, and if the buying pattern is repeated it is likely to start buying oil at current prices," he says.

In precious metals the increased regulatory scrutiny of both the derivatives markets and the mechanics of reference prices eventually led to the demise of the long-established arrangements of the London Gold and Silver Fixings, the benchmark over-the-counter prices used by miners, banks and end users to trade and value contracts. The London Gold Fixing used to be negotiated twice daily by five banks and the Silver Fixing by three banks. However, when Deutsche Bank pulled out of precious metals the Gold Fixing was left with four banks and the Silver Fixing was no longer tenable.

Since then, the management of the Gold Fixing has been taken over by the Intercontinental Exchange and the process of electronic pricing will start in the first quarter of 2015. CME and Thomson Reuters have picked up the Silver Fixing and the LME is administrating the London Platinum and Palladium fix. However, what is currently in place is unlikely to prove a good long-term solution either for the exchanges or end users of the fixings.

Although both CME and the LME were also bidding for the Gold Fixing, the three fixings were awarded to three different bidders primarily because these proposals were an improvement on the earlier ones, according to Ross Norman, CEO of bullion brokers Sharps Pixley.

Now, brokerages and users of the fixing data are grappling with the three provider models, which is proving arduous and expensive. "It means that you have to deal with three different sets of compliance departments, use three different systems and pay three sets of fees," Norman says, adding that this will eventually put off some users and weaken the standing of the fixings.

Further expansion

In the longer term, both CME and the LME plan to expand their gold and precious metals activity. The LME is planning to introduce dollar-denominated gold and silver futures and to follow them up with platinum and palladium futures. CME, which has been mulling product expansion in London for a few years, has changed direction and made Hong Kong its first port of call with the launch of the Asian gold kilobar contract in January 2015.

Expansion in Asia remains the coveted prize for most exchanges although they will increasingly have to compete with fast-growing local exchanges for a slice of the local derivatives market. ■

Whose market is it anyway?

Certain commodities with retail exposure attract criticism of speculative influences, but how important are these and do they affect hedging policies? By **Vanya Dragomanovich**

To what extent speculators contribute to the volatility of commodity markets is a question that gains intensity every time sharp price movements start affecting both big industrial companies and retail consumers.

Statistical evidence shows both that speculators play a significant role in short-term price moves but also that fundamentals of supply and demand dominate long-term price changes.

A 2011 study by the United Nations Conference on Trade and Development entitled 'Price Formation in Financialized Commodity Markets' found that "whereas index investors were identified as significant price drivers prior to the financial crisis, the importance of money managers (e.g. hedge funds) that follow more active trading strategies and take positions on both sides of the market has increased since then." The report showed that the correlation between price moves and money managers' position changes is sometimes as high as 0.8 in the oil market and that speculation in the post-2008 world has accounted for as much as 20 per cent of the oil price.

Public concern is rarely articulated outside major price spike incidents. But even here, is it justified? Professor Jeffrey Frankel of Harvard Kennedy School looked at speculation influences on commodity prices in a 2013 paper and while discerning their presence argued that monetary policy was a more significant influence – i.e. low real interest rates stimulated higher commodity prices. However, that hardly tallies with the market experience in oil and metals in early 2015, for example.

Meanwhile, a third study by Professor Rita D'Ecclesia of the University of Rome also concluded that exchange rates have a stronger influence on oil prices than speculators.

If there is no clear agreement among academics, what do exchange stats tell us? The US Commodity Futures Trading Commission publishes a weekly Commitment of Traders (CoT) report listing the open positions across commodities markets and exchanges. The positions are broken down into producers and merchants, swap dealers and managed money.

While the roles played by producers and merchants on the one hand and managed money on the other are fairly clear, the swap dealer category covers a variety of trades. These include those placed by banks to hedge-producer or end-user positions, namely hedging rather than speculative positions. But until the banks decide, or are obliged, to operate on an agency-only basis, the US CoT reports aren't particularly enlightening.

The London Metal Exchange (LME) tried to go a step further when it started publishing CoT reports in 2014 and subdivided participants into five groups. "If you look at the LME's breakdown of the various categories of market participants you have on one side money managers, broker dealers and index traders, and on the other producers and merchants," explains Robin Bhar, head of metals research at Société Générale Corporate & Investment Banking. "If you look at the numbers, the majority of positions are still taken up by companies that need to hedge their production or purchases."

Hedging lessons

At the beginning of 2015 the sharp drops in oil and metal prices were too quick to be caused only by changes in global demand patterns. Although the exact extent of speculators' role may be unclear, what is certain is that for a large number of blue chip

> In most commodities, speculators are a bigger influence on short-term moves than longer-term trends

companies the oil price drop required a rethink of their hedging strategies.

Among the FTSE 100 constituents it is hard to find companies that are not in some way exposed to the volatility of commodity prices. “For oil companies and miners, for instance, any major investment such as a new pipeline, building infrastructure or a new mine requires financing, and that is typically linked to long-term hedging,” says Harry Tchilinguirian, global head of commodity markets strategy at BNP Paribas.

Beyond that, for all manufacturing companies, power costs constitute a large portion of their overall operating budget. Airlines and transport companies depend on the price of fuel while chemical firms, car makers, electronics producers and food manufacturers all have to budget for commodity price moves. A sharp drop in cash and futures markets can only be to their advantage if they have some flexibility in their earlier, higher-priced hedges.

Major US airlines such as Delta and Southwest, for example, had to reposition their fuel hedges, commonly swaps with some futures, in response to the recent price drop. Oil is the biggest variable cost for airlines and constitutes at least a third of all the companies’ operating expenses. For big plastics producers and other chemical companies, oil, gas and coal can make up as much as 75 per cent of the total cost of their end product.

Oil price moves are also bringing big national players into the market. Kazakhstan, a major producer of gas and oil, held discussions with Goldman Sachs when it was looking to hedge against falling oil prices. China, meanwhile, stockpiles cheap oil for its state reserves as a form of protection against future rises.

Stainless steel companies are keeping a close eye on the price of nickel because Russia is a major producer and a fall in the rouble tends to prompt more exports. While these are fundamental issues they are also clearly visible to speculators.

Similarly, chocolate makers are already watching cocoa prices rise to four-year highs because of lower production, but with Ebola knocking on the door of Ivory Coast, the world’s biggest cocoa bean producer, there is scope for far higher prices.

In most commodities, speculators are a bigger influence on short-term moves than longer-term trends. The one exception, however, is gold, the commodity in which speculators have changed the fundamental supply and demand picture through specialist investment products. Since gold exchange-traded funds (ETFs) became popular among investment institutions just over a decade ago they have grown to make up between 20 and 40 per cent of the total demand for the metal. Unlike futures, gold ETFs need to be backed up by actual gold. In 2013 some 880 tonnes of gold were booked to ETFs in a 4,080 tonne market.

Speculators will continue to play a key role in commodity markets, bringing with them both volatility and valuable liquidity. A well-traded market, with both speculation and hedging activity, is more likely to deliver a reliable price than one with only a handful of participants. ■

Also in this section:

The beauty of simplicity

Making OTC instruments uniform is creating the motivation for standardised trading technology, offering cost savings and greater transparency. By **Dan Barnes**

The G20's 2009 demand for standardisation – and electronic trading – of derivatives contracts had important implications for the development of trading technology. The target of the changes was over-the-counter (OTC) derivatives, which are characteristically expensive and idiosyncratic, and therefore non-fungible and illiquid. Electronic trading – in its fullest order-to-match-to-fill sense – only works well with commoditised, liquid products.

As Dodd-Frank, the European Market Infrastructure Regulation (EMIR) and other regulations are put in place to enforce the G20's plan, electronic trading of derivatives is likely to increase, leading to a greater need for standardisation of the underlying technology.

"On the back of MiFID [Markets in Financial Instruments Directive] in 2007 a raft of new trading venues and a number of new CCPs [central counterparties] were launched," explains Damon Batten, principal consultant at Catalyst, a market infrastructure consultancy. "What may happen under OTC derivatives rules and MiFID II is a much broader effect as these rules reach beyond equities. It is likely there will be a proliferation of new organised trading facilities (OTFs) that will offer electronic trading in OTC derivatives interest rate swaps and credit default swaps. I wouldn't expect the CCP picture to change too much, at least initially."

Derivatives markets have characteristics that make the trading technology more influential over connectivity than in other fields such as cash equities. Trading system providers do not try to connect with as many markets as possible, because the lack of fungibility between markets removes the need for customers to route orders across multiple venues to find the best price. Instead, a case for connectivity has to be made by the exchange to the trading system provider.

However, as new markets in the US, Europe and Asia open up, with firms such as Nasdaq, Eris Exchange and Global Markets Exchange Group injecting new life into the existing product offerings, the range of connectivity is expanding.

Product-ivity

Swap futures and Interest Rate Swap Index Average (IRSIA) Constant Maturity Futures (CMF) are likely to increase the number of venues that each trading platform provider must connect to, at least in the short term, making the case for standardisation of the interfaces that are used to reduce costs.

"Standardisation in technology drives and gives more value for money to the user," says Veronica Augustsson, CEO of Cinnober, a technology provider for exchange and market infrastructure firms, "as they don't need to spend money on unique, proprietary systems where they can use standard interfaces and business logic."

The Financial Information Exchange (FIX) protocol, which offers a standardised messaging between trading counterparties, has been widely adopted by swap execution facilities in the US, and confirmed 10 major venues as users in July 2014, something Maged Hassan, global head of fixed income e-trading technology at Morgan Stanley, describes as providing "sizeable savings" across firms.

Beyond the cost of connectivity, standardisation can deliver savings in technology design. The licensing of new products from the smaller exchanges to trading behemoths will allow trading platforms to reuse the technology components developed for the 'issuing' exchange. Global Markets Exchange Group (GMEX) has licensed its constant maturity future product to be confirmed and cleared by Eurex while Eris has licensed its swap future to CME Group.

"I may still have to write to a different API [application programming interface] to get a swap future from an older market than the swap futures listed on the exchange that developed the product, but at least I know the product is standard," explains Drew Shields, director of product management & marketing

at trading system provider, Trading Technologies. "So at a minimum, I know the infrastructure I built to handle a swap future is reusable because at least the product is standard and is going to be used in more venues. I am excited that standardising of intellectual property on the product side will allow technology to have an easier time to add more value."

Augustsson supports this view: "It is easier to write software if there are standardised products because you can more or less preconfigure instruments. By getting more standardised instruments you get cheaper and more efficient technology."

Further progress in product standardisation may also be possible if clearing interoperability is pushed through by regulators, which would allow products traded on one market to be cleared on a competitor's CCP. However, while this has been mooted in MiFID II it is thought to be an unlikely development at present by many market commentators, due to the complexities of tracking, measuring and managing risks associated with complex instruments across multiple CCPs, particularly in a default.

> **Further progress in product standardisation may also be possible if clearing interoperability is pushed through by regulators**

FIXing the Tower of Babel

Once products have been standardised and can be handled by multiple dealers and venues, the ability to communicate quality of execution becomes measurable. Within cash instruments, transaction cost analysis (TCA) has long been the measure of performance for traders whether buy side, sell side or algorithmic. However, listed derivatives have lacked the market structure, which might make performance hard to track. With a single central limit order book (CLOB), listed derivatives are about as 'lit' as a market can be.

If that were to change, with the development of trading the same product across multiple markets, accurate TCA could mitigate the loss of transparency. However, it can be devalued if the performance results are not directly comparable between different traders.

FIX has been working on the development of standards to ensure that everything from the venue to the type of counterparty is detailed. "One of the key things in transaction cost analysis across asset classes is to get standard terminology within," says Tim Healy, global marketing & communications manager at FIX Trading Community. "There is buy-in from across the vendor community, the buy side and the sell side, because it does make everybody's life easier. It takes some investment from the sell side and vendor community to get the standards in place, but it is very important."

In search of a sustainable model for cleared derivatives operations

By Brian Traquair, executive vice president, SunGard Financial Systems

Firms across the industry have traditionally managed their own operations – middle- and back-office processing, reconciliation, tax processing, corporate actions and others – because these were seen as differentiators. Today these same firms are beginning to realise these functions, although business critical, do not create any competitive advantage. And, in many cases, their cost is not sustainable.

Futures commission merchants (FCMs) in particular have been hit hard by the expanding and changing regulatory environment that continues to erode profit margins by increasing the cost of clearing and compliance. The impact of post-crisis regulations and especially European Market Infrastructure Regulation (EMIR) and Basel III, have exacerbated the FCMs' ongoing efforts to reduce cost and remain competitive and viable.

It is apparent that significant structural changes are needed to create an economically sustainable operating environment for cleared derivatives operations. According to a recent Tabb Group study, these challenging market conditions have resulted in a reduction in the number of CFTC-registered FCMs by 49 per cent since December 2007. If this trend continues, it will challenge the industry's long-term sustainability. But where is the breaking point? Will only a few significant and capital-rich clearing firms be left, creating a clearing house risk concentration issue the industry was designed to avoid?

The threat of such a scenario is driving today's FCMs to look to more efficient and cost-effective ways to manage their middle- and back-office operations, especially as inefficiencies in operations and technology prevail. The most obvious focus area is in the common operations functions replicated across each FCM in the industry, resulting in higher total cost of ownership (TCO) for each FCM and the industry as a whole.

More efficient operating models are a priority

The ability to automate processes – taking manual work and transforming it into a standardised process and outcome that can be replicated over and over with minimal or no human intervention – is the path to a more efficient cost structure for the entire industry.

Traditional software implementations can be time-consuming and disruptive, particularly when factoring in conversion of an existing operation. An increased appetite beyond traditional outsourcing is emerging to effectively deploy entire processes 'in the cloud', offering what is common in the industry to multiple tenants at the same time and with greater efficiency, lower risk and better economies. This model would address the industry cost challenge of replicated processing across all individual FCMs and deliver a more compelling alternative via a third-party service provider. This model would also give firms the ability to manage growth without adding resources while reducing costs, manual effort and risk.

In order to achieve such a model with reasonable investment and risk, firms must leverage foundational technology that already supports these critical, but common, operational functions. Some firms have already moved to earlier outsourcing models, but offerings combining both the platform and the process 'in the cloud' are needed to help clearing businesses address their fundamental cost challenges.

Advantages of the technology-driven, process 'in the cloud' operating model

Post-trade cleared derivatives processing is highly commoditised, providing little differentiated value to each firm at increasingly higher costs. With well over half of post-trade derivatives processing replicated in each clearing firm, consolidating a majority of these non-differentiating operations into a single, shared operating environment can significantly increase efficiency, simplify regulatory compliance, and alter the cost structure for all participants.

Innovative operating models for post-trade futures and cleared over-the-counter (OTC) derivatives operations can help global capital markets firms better adapt to new market challenges and respond to post-financial crisis cost pressures. In addition to cost reductions resulting from economies of scale, operating model innovation will offer continued mitigation of non-recurring costs by mutualising the expense of keeping up with regulatory and market changes.

Trusting common processing functions to a third-party, technology-driven processing service can also drive a more consistent process across an FCM's various functions, which will ultimately benefit end clients. Looking forward, using this same type of platform for continued development of best practices in FCM operational controls and risk management will help further the transformation of the existing operating model – giving FCMs the ability to focus more effort and capital on clearing more business and increasing competitive advantage and profitability.

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Time to integrate?

Central clearing is eliminating the processing differences between OTC and ETD, driving technology vendors to extend their capabilities. By **Joel Clark**

Post-crisis regulation of the over-the-counter (OTC) derivatives market has focused on bringing greater transparency, risk mitigation and operational efficiency to products that were previously processed very differently to exchange-traded derivatives (ETDs). If those objectives are successfully achieved, post-trade processing of OTC derivatives will end up looking much more similar to that of listed derivatives.

Some technology vendors believe now is the time to extend their systems so that they can process both products. While there may always be demand for the customised hedges offered by OTC derivatives, that doesn't mean that post-trade processing has to remain separate from the listed market.

"OTC and exchange-traded derivatives remain different products, but the post-trade processes such as trade acceptance, clearing, margining and collateral management are very similar," says Stella Clarke, chief marketing officer at technology vendor, Murex. "So there is clearly a case for merging processing platforms to cover both product sets."

From a risk perspective, market participants also have an incentive to create a more integrated post-trade workflow, adds Matthew Streeter, capital markets strategist at financial analytics provider, FINCAD. "We see a lot of portfolio managers and traders focusing integration efforts on capturing the risk across all of their trading strategies and understanding the aggregate impact of that risk," he says.

It is central clearing, with its associated margining and collateral requirements, which brings processing of OTC derivatives into closer alignment with that of listed derivatives. As market participants look to centralise their collateral management functions for both products, and realise the benefits of cross-margining offered by exchanges and clearing houses, there is growing demand for simplified, integrated post-trade technology.

Technology vendors have historically been split fairly clearly between the listed and OTC markets, with few offering the functionality to support both, but that paradigm is slowly beginning to shift.

Murex, for example, traditionally focused on OTC derivatives, but it has developed its capabilities so that it can now offer collateral management across products at the enterprise level. And while the vendor acknowledges that it will take time before it can claim to offer equal expertise in both product sets, the direction of travel is clear.

"This kind of integration is very challenging because it involves bringing together fungible and non-fungible products, risk management and operations processes," Clarke explains. "Vendors that specialise in standardised ETDs need to get to grips with the diversity and complexity of OTC derivatives, coupled with best risk-management practices, while OTC specialists need to develop the capacity to manage high-volume flow products," she says.

Blurred lines?

Murex is not the only technology vendor looking to extend its capabilities as clearing is implemented, and it appears that both OTC and exchange-traded specialists are extending into each other's territory. SunGard has expanded the functionality of its GMI platform, which was historically focused on the listed market, to cater to the processing requirements of cleared OTC derivatives.

"Many of the building blocks of ETD processing now also apply to cleared OTC derivatives," says Christopher Meens, global head of customer service for SunGard's post-trade business. "There is a natural drive to integrate the two businesses when it comes to processing so that banks can benefit from the economies and optimisation of a single system."

But while such integration may be popular among SunGard's sell-side clients, the challenge is to ensure they can still comply with globally diverse regulations. "Each region and clearing house has different requirements, so we have been working closely with our customers to understand what they need from a unified derivatives processing system," says Mark Green, SunGard's global head of product planning in post-trade business. "Flexibility of technology is absolutely crucial if those diverse requirements are to be met."

Not everyone is convinced that the move towards integrated technology is inevitable. While some market participants expected regulation to drive general convergence between OTC and listed markets, with products such as deliverable swap futures thought to bridge the gap between the two markets, the reality is that any such evolution is playing out very slowly.

> **Not everyone is convinced that the move towards integrated technology is inevitable**

"If you go back to discussions around early drafts of the regulations, there was a widespread expectation that there would be a blurry line between the listed and cleared OTC markets, and banks and clients would only need one set of systems," says Nick Solinger, head of product strategy and chief marketing office at post-trade vendor Traiana. "But traders like aspects of the OTC market and differences in regulations have so far preserved many differences in the IT systems that cater to OTC."

While there may be limits to the amalgamation of processing systems, Solinger acknowledges that collateral management is the area seeing most demand for integration. "There are still possibilities for synergies, and we definitely see people focusing on it in the collateral space, where the ability to cross margin in real-time has been a theme. But when it comes to trade processing, credit checking, reporting and clearing, the workflows are still very different, and will be for some time to come," he notes.

As the complex repercussions of clearing and reporting requirements on systems and processes become apparent, some regulators are taking a growing interest. Forums such as the US Commodity Futures Trading Commission (CFTC) technology advisory committee bring together technology specialists with banks and infrastructure providers to discuss key issues.

But with no direct regulation of technology vendors, such oversight is more of a monitoring tool for regulators rather than a means of driving developments. In some cases, the dialogue may be constructive, but there have been some technological issues such as the assigning of trade identifiers for reporting that have proven far more challenging than expected.

"The devil is often to be found in the details of the rules," says Solinger. "And while the CFTC should be commended for holding technology hearings and asking many of the right questions, there were a number of issues that caused a lot of confusion and concern in the market which were not intended, so more dialogue and engagement with vendors and participants is key." ■

Barriers to innovation

Starting up a new technology company is cheaper than ever, but the regulatory burden has increased the cost of winning business. By **Joel Clark**

Apart from when derivatives trading went from floor to electronic, there has never been a better time to provide technology to the derivatives industry. Complex and challenging new regulations are increasing the technological burden faced by financial market participants, creating increased demand for smart vendors that can bear the brunt of that task. Meanwhile the costs of setting up a technology company have fallen dramatically over the past decade, slashing one of the major barriers to entry for start-ups.

But scratch below the service, and the direction of travel is not quite so clear-cut. While the hardware is cheaper, to the extent that cloud services can allow start-ups to be established in a matter of days, winning the business of banks and buy-side firms can be much tougher for new companies than in the past, playing to the strengths of larger vendors.

"While the actual technology may be cheaper, the barriers to entry are actually higher for a start-up coming into this market today than they were in the early 2000s," says Keith Todd, executive chairman of FFastFill, an exchange-traded derivatives technology provider acquired by ION Trading in 2013. "Technology has become so mission-critical that market participants will be reluctant to go for a new company that's not tried and tested for any material part of their business."

However, others contend that while the security and reliability demands on vendors are greater than in the past, the increasing structural complexity of financial markets creates a greater number of intricate challenges, which start-ups can sometimes be better placed to address.

"As markets evolve, there will always be new opportunities for technology providers, but the challenge is to be nimble enough to react to that evolution and come up with credible solutions," argues Matthew Streeter, capital markets strategist at financial analytics provider, FINCAD. "I do believe we will see smaller niche players overtaking incumbents in some areas by providing technology to deal with the nuances of regulation."

What is clear is that technology will play an increasingly important role, particularly in the post-trade

space, where regulation is creating greater demands on systems and processes and market participants are increasingly looking to collaborate rather than compete.

Clearing house connectivity is one example, as banks trading over-the-counter derivatives need to make sure they are connected to the necessary market infrastructures to centrally clear trades on behalf of their clients in those jurisdictions where it is mandatory. Participants also need to be connected to multiple trade repositories and swap execution facilities (SEFs and OTFs) to meet all of their reporting and trading obligations. Managing all of that connectivity in-house would be prohibitively expensive for most firms, and banks are increasingly working together to find common industry solutions.

"It is in the post-trade space that there will be most opportunity for industry collaboration on technology, because the process of allocating trades and logging them with the appropriate clearing houses is a hassle for the whole industry," explains Steve Grob, director of group strategy at trading systems provider, Fidessa. "If that process is streamlined for everyone through utilities and standards like FIX [financial information exchange], then firms can focus on achieving a competitive edge in their front-office activities."

> **Technology will play an increasingly important role, particularly in the post-trade space**

Standards critical

Working examples of the industry coalescing around particular post-trade solutions include Traiana's Harmony network, which allows market participants to use their own preferred tools in the front office but then come together for more complicated post-trade processes.

Standards play a growing role in allowing such networks to function effectively. While the equities market may be further advanced in using the FIX protocol as a messaging standard, it was the use of the Financial products Markup Language (FpML) that allowed Traiana to efficiently connect a large number of futures brokers, clients, SEFs, trade repositories and clearing houses in a single network.

"Standards have become increasingly critical as the industry implements clearing, reporting and trading on SEFs," says Nick Solinger, head of product strategy and chief marketing officer at Traiana. "If we

> Being able to demonstrate reliability, scalability and robust infrastructure will be more important than ever

didn't have a messaging standard in the form of FpML, it would have been much more costly to build the networks for clearing and credit limit checking – the standards enable interoperability between brokers and market infrastructures."

Driving growth

Perhaps, then, regulation will drive the growth of standards and collaboration in the derivatives market rather than the death of start-up innovation.

Other areas where firms might put aside competitive differences to develop industry-wide solutions include the credit valuation adjustment (CVA) calculation for derivatives, as well as valuation using overnight indexed swaps (OIS) discounting, says FINCAD's Streeter. Both processes are functions of the new paradigm in the derivatives market, in which Basel III requires capital to be held against CVA to mitigate counterparty credit risk.

"It is very likely we will see a move towards greater use of shared services and market utilities as a means of tackling industry-wide problems," Streeter says. "The biggest challenge is getting agreement from all of the dealers and buy-side firms on how that utility would work."

FFastFill's Todd agrees that brokering agreement between stakeholders is the biggest obstacle. "The current environment should favour increased use of standards as a means of reducing cost and driving efficiency, but experience shows that the time it takes to get agreement to a standard goes up exponentially with the number of people in the room. I would personally favour standards that develop through use, rather than being conceived by a consortium," he explains.

Vendors may be divided on exactly how the future will play out, but what they tend to agree on is that being able to demonstrate reliability, scalability and robust infrastructure will be more important than ever. While that may be easier for larger providers that have been in the business for a long time, it doesn't necessarily rule out innovative and well-financed new entrants.

As Stella Clarke, chief marketing officer at technology vendor Murex, puts it: "The successful vendors of the future will be those that offer a greater breadth of asset-class coverage, can handle high volumes, integrate risk and operation best practices and support both cleared and non-cleared derivatives." ■

Open source provides balance of power in new market structure

By Mas Nakachi, CEO, OpenGamma

Derivatives market structure is evolving at the fastest pace since the founding of the swap market over 30 years ago. The regulatory changes behind this reshaping of the industry landscape are forcing a re-evaluation of both individual businesses and the power polarity of the entire eco-system.

In this developing environment, capital constraints are incentivising banks to focus on value creation, while at the same time seeking to limit spending on standardised but required technology. While these are the most visible concerns, banks are also examining the balance of power across different market participants and the potential for changes in market structure to alter these power dynamics.

The root cause of widespread disquiet in the dealer community is the knowledge that on a number of occasions the opacity of calculations has been used to great effect. This is particularly the case with large technology and information providers, but is also true of other industry participants. In the past, if a process or mathematical model became the de facto industry standard but there was incomplete transparency into the full implementation of the methodology, it was a severe inconvenience. When that occurs in market structure, it can turn idiosyncratic risk into systemic risk, by creating an opaque systemically important point of failure.

To address these issues, open source can serve a dual purpose: providing the required standardised analytical tools in a fully transparent manner, and ensuring that banks will not be held captive to any single entity as they have been in the past.

Balance of power in the evolving marketplace is a real and current issue for banks. There is already concern about the transparency of cleared derivatives margin models, and so banks are keen to ensure that they don't also lose control of uncleared/bilateral margin models and the associated technology infrastructure. For this reason, calculating margin for OTC derivatives and understanding the costs to a bank is a great example of an important and complex activity that should be fully transparent, and could best be serviced by such an open source solution.

Indeed, while ISDA's Standard Initial Margin Methodology (SIMM) provides the framework for uncleared margin calculations, many banks are concerned that, although they see the benefits of a utility to support this, they will likely be required to give up visibility and control on how business critical calculations are implemented. This cautionary approach is valid, given banks' prior experience with similar monopolistic entities.

Open source technology is... a previously unexplored approach that lends itself to supporting any centralised market solutions that the OTC derivatives industry develops

The inherent and ongoing tension between outsourcing standardised functionality and relinquishing ownership and control of business critical processes has been building for decades within banks. Indeed, it is at the forefront of industry trepidation around the current OTC market structure changes.

Open source technology addresses all these concerns. It is an innovative and previously unexplored approach that lends itself to supporting any centralised market solutions that the OTC derivatives industry develops. It is also a tremendously powerful policy tool that can cost-effectively deliver mission-critical but standardised analytics, as well as create a more rational balance of power across the OTC derivatives industry. That's a solution that any bank should be happy to buy into.

Opposing forces

As traditional exchanges continue to consolidate, they face a new threat: decentralisation. By **David Shirreff**

Also in this section:

Ethan Burnside in California is perhaps the first person to have been hit by the US Securities and Exchange Commission (SEC) for trading securities denominated in a virtual currency. He had not registered his two trading operations, which offered shares denominated in Bitcoin and Litecoin, as securities exchanges, thus infringing the 1934 Securities Exchange Act. Burnside was required to cease and desist, and in December 2014 was ordered to pay over $68,000 in recompense and penalties. He was barred from applying to do financial business again for two years.

But that does not seem to be discouraging an army of other virtual-currency enthusiasts from climbing on the same bandwagon and exploring the possibilities of trading assets in the digital space. It is only a matter of time and effort, they believe, before the kind of decentralised asset trading pioneered by Bitcoin will be applied to all manner of values, including bonds, shares, commodities and derivatives. If that happens it will directly affect the traditional exchange structures.

With Bitcoin's underlying technology, known as the blockchain, all that such trading requires is computer geeks willing to build and run a market, and enough participants willing to trust the software and trade. Michael Mainelli, chairman of Z/Yen, a consultancy, sees applications beyond simple financial products, for example in the fields of personal insurance and medical records.

The blockchain is like a ledger that confirms the unique ownership of an asset, and proves its transference when the asset changes hands. Encryption ensures that the transfer is a one-off and virtually fraud-proof – "as indestructible as a cockroach", Mainelli says. That eliminates the need for an intermediary, such as a broker or clearing-house, to act as a trusted third party. Instead, the blockchain is the trusted mechanism.

The implications for conventional financial institutions and exchanges are huge. "Bitcoin is indeed the start of disruption in business processes irrespective of whether Bitcoin the currency ever obtains mainstream traction," says Dave Birch, an expert on electronic transactions. His firm, Consult Hyperion, is exploring the possibilities for a financial institution of using blockchains for trading "without clearing and settlement".

> **Decentralisation is the key to all these initiatives, including dispersed rather than central control**

Such a leap into space is anathema to regulators. Hence the nervousness of the SEC and the European Banking Authority, which have both put out warnings recently, insisting among other things that consumers making deposits in virtual currencies, or holding assets denominated in them, are not covered by protection laws.

Regulatory hurdle

But the momentum for creating such exchanges looks unstoppable. Leading the field is most likely an initiative by Patrick Byrne, chief executive of Overstock, an American online retail store. He has hired software experts and a legal firm to develop an exchange dubbed Medici. His aim is not only to undercut the fees of traditional brokers and exchanges, but also to eliminate naked short selling (selling stock that one does not own), which he says is the bane of today's equity markets. The technology is no great hurdle, Byrne says of his project, but "we don't yet know how high the regulatory hurdle is." Currently regulation demands that a virtual exchange at least has central clearing – irksome for a concept that aims to be decentralised.

The website O.info identifies at least 12 other initiatives to create what it calls cryptosecurities, including Bitshares, Peershares, Ethereum, Colored Coins, Mastercoin, NEM and HyperLedger. Its webpage 'How to issue a cryptosecurity' outlines one proposal that companies issue cryptosecurities in parallel with their common stock, which will be retired as the cryptosecurities are bought. Even if these were treated as a private placement, with a limited range of investors, they would have to be registered with the SEC.

In Europe, where the regulatory landscape is less sharply defined, the Munich-based Fidor Bank has teamed up with virtual currency trading specialist Kraken to create what it calls "the world's first cryptocurrency bank". The aim is to build the first trading platform for exchanging digital and fiat currencies, but there is no mention of securities.

Decentralisation

Decentralisation is the key to all these initiatives, including dispersed rather than central control. That seems to run counter to the trend of the past few years, towards the development of ever-bigger exchanges and clearing houses such as the Chicago Mercantile Exchange (CME), the Intercontinental Exchange (ICE) and the Hong Kong Exchange (HKEx), on whose platforms most of the planet's securities and derivatives contracts are traded.

But Patrick Young, an expert on exchanges, notes that some decentralisation is already underway. The software to set up an exchange has become commoditised. That makes it easy to start smaller markets and subdivisions of existing markets. The oil market, once dominated by trading in Texas and Brent crude, now trades in many other geographical brands. Power markets are similarly fragmented. As barriers to entry fall there is a new element of democratisation at work, says Young.

Fragmentation arguably cuts into liquidity. But liquidity itself has tended to be overhyped by the dominant dealers and their trade associations. Because banks' use of capital is becoming more costly, and there is pressure to clear standard swaps and derivatives through central counterparties, those counterparties are learning to deal with many less liquid contracts.

Though the volume of over-the-counter swaps has been declining, increasing numbers are being taken off big-bank balance sheets by netting, transfers to other counterparties and centralised clearing. SwapClear, a unit of LCH Clearnet, accounts for the lion's share of this clearing: over 50 per cent of interest rate swaps that are written and 95 per cent of all interest rate swaps that are cleared.

New opportunities

As the major dealers' balance sheets lighten, they are likely to be more open to new opportunities and concepts such as decentralised asset trading and the introduction of many competing currencies. The question then will be whether Gresham's law applies in this new world: whether bad money drives out the good.

Understandably, regulators, especially central banks, are worried by anything that threatens their ability to transmit public policy through managing the money supply. A recent paper in the Bank of England's quarterly bulletin on the economics of digital currencies flags up the inflexibility of supply in these new currencies as potentially dangerous and deflationary, if they get big enough to be more than a pimple on the face of global markets.

How regulators and leading market practitioners respond to this conundrum in the next few years or even months – i.e. whether they give their blessing or curse to decentralised markets – will likely determine the shape of the financial markets and their infrastructure for years to come. ■

> **Fragmentation arguably cuts into liquidity. But liquidity itself has tended to be overhyped by the dominant dealers**

A kick up the SaaS

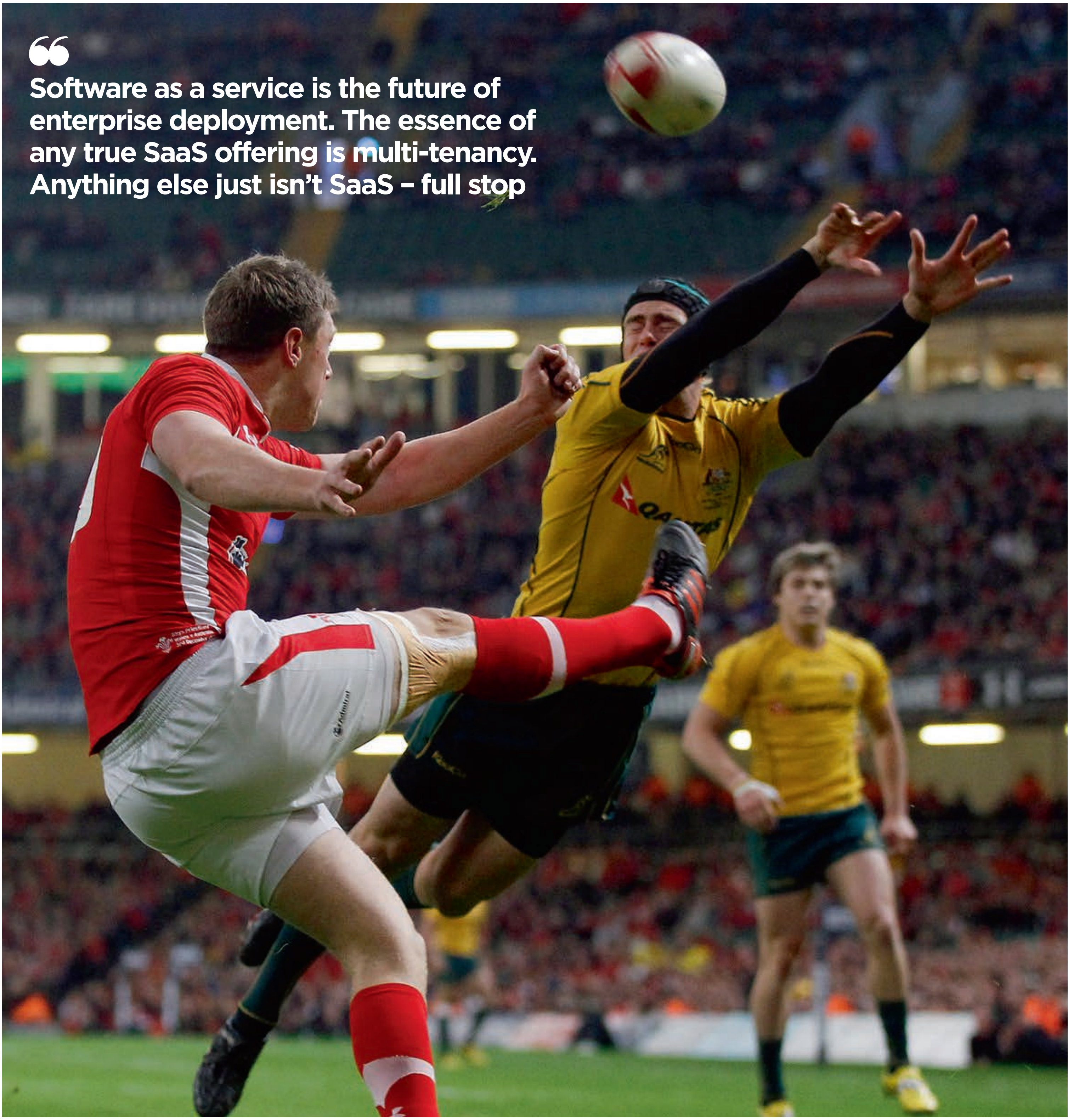
IT innovation in derivatives markets has lagged behind other industries and social media for a specific reason, and it needs to change, according to Hamish Purdey

The rapid evolution in IT technology is all around us. We are consuming and using more transformative services every day. A major challenge for the derivatives industry is how do we adopt and implement the services that the new workforce uses and expects in their everyday lives?

As knowledge workers in the 21st century, we use and expect to consume near-real-time services in incredibly flexible ways. Whether accessed through smartphones, tablets or application programming interfaces (APIs), these services have become part of our everyday lives. We share statuses via social media, files via Dropbox and have near-free access to some of the most sophisticated software in the world.

Why is it then that the enterprise software we have implemented in the derivatives space is so archaic? Very little real innovation has happened in the last five to ten years and even less has been implemented. Many vendors are saddled with the yoke of legacy infrastructures and years of complexity in implementations. Firms see change in the middle and back office as multi-year projects costing millions of pounds. That doesn't much decorate a vibrant, innovative industry with the support technology it deserves.

> **Software as a service is the future of enterprise deployment. The essence of any true SaaS offering is multi-tenancy. Anything else just isn't SaaS – full stop**



My view is that the answer lies in the lack of SaaS-deployed solutions. SaaS – software as a service – technology abounds in many other disciplines. The most often-cited example is Salesforce, where we now routinely entrust our account management, contact management and sales pipeline analysis to their cloud-based solutions. However, examples are in every discipline. Disrupting the accounting sector, for example, is NetSuite: a fantastic set of financially focused processes and tools that allow your business – whether generating £5 or £500 million of revenue – to have world-class financial technology.

SaaS is the future of enterprise deployment. The essence of any true SaaS offering is multi-tenancy. Anything else just isn't SaaS – full stop. And then it must be single-instance. It is only with these two elements that you can get close to obtaining the maximum benefit out of the company.

Managing deployment

The importance of single-version, single-instance product cannot be understated. To be clear, on-premise software companies can have a single version – and that's great. However, the range of deployment scenarios that on-premise requires creates inefficiency. Single-instance with multiple tenants is the ultimate deployment scenario. It comes with risks and it's not easy, but it's worth it. It's the golfing equivalent of having hit a good drive down a par five and going for the green from there. It's high risk yet high reward. Indeed, the rewards can be massive for both vendor and customer.

Anyone who has deployed software to clients knows the pain of the client acceptance process, especially for large customers and especially for banks. The software company managing that process provides a major benefit in ensuring that the latest code is up and running with every customer. Every time a defect or an enhancement passes test processes it can be released. This process of deployment has to be carefully managed by the development company, because small change can have major impact when every customer is in the same instance. However, it's an order of magnitude easier than shipping these versions to customers for them to implement, as most IT departments in, for example, banks will be focused on very specific processes rather than broader applications.

In software companies, the sanctity of the data model and the code base is precious. Relatively small IT companies growing up in the world of international finance find customers can be very persuasive: it's easy to do something for a customer in order to win a deal or to fix a bug or to repair a relationship. Bringing that code change back to the core is nigh-on impossible in the rush to deliver new functionality and capability, so it just very rarely happens.

But with SaaS the IT company takes control, as it knows the environment the software is deployed on. In enterprise-class deployments this is incredibly important. Code never leaves the data centres. The vendor knows what brand of network card is in every server – and when you are pushing hundreds of megabits of multicast around the world, that's key. In the world of futures, where milliseconds matter, this is incredibly important.

Another key component of SaaS is the adoption of open APIs. The SaaS companies that will win in the next phase will see themselves as platforms. They will be extremely good at providing a platform for innovation. The Apple App Store is probably the most perfect example. Companies that adopt open APIs enable integration possibilities that cement their position in the IT food chain. REST (REpresentational State Transfer)-based APIs enable ease of integration while adhering to modern security and deployment standards. REST-based APIs abound and the majority of modern software deployments will have them – from Facebook to LinkedIn and beyond. There is surprisingly little adoption of these in derivatives, however.

Dealing with data

Monitoring is a key component of SaaS and the technology of today can offer unprecedented insight into itself. Splunk is a platform that allows users to understand what is actually going on under the covers of the IT infrastructure. It derives operational intelligence from machine data, which offers a degree of visibility that only true 'big data' services can provide. Computers are in general telling us what's going wrong with our solutions, it's just that we haven't been able to cope with the avalanche of data that's there to analyse. Splunk offers real-time access into this data.

Splunk also provides the ability to correlate disparate sources of data. This is key in our increasingly interconnected world. A futures order path, for example, probably hits in excess of 10 different monitoring points on the way through the path to the exchange or matching engine. Traditionally the data this produces is never fully utilised. But it is now possible to take all of this data – some network-sniffed, some log-based, some from databases – and provide real-time dashboards that alert to issues, whether they be inside or outside your control.

The world, and especially the derivatives world, is continually changing. For our industry to keep up with those changes, we need real-time access to new products and then real-time information about those products. In short: we need to adopt and embrace SaaS. ■

Asian take-off

Two developments are reshaping Asia's derivatives landscape: the embedding of new reporting and clearing regulations, and the inexorable rise and liberalisation of China. By **Steve Price**

The wave of regulatory reform that swept the US and Europe last year was dealt with differently in Asia. In the US, Dodd-Frank is largely in place, despite political sniping, and the first stage of the European Market Infrastructure Regulation (EMIR), trade reporting, was implemented early last year with mandatory clearing set to start this year. In Asia, regulators are applying a phased introduction, focusing first on the bigger asset classes, such as interest rate swaps, and the largest participants.

Whereas Europe had quite a lot of disruption last year, Asia had a relatively straightforward, less disruptive process. "Asian regulators have demonstrated a collaborative approach," says Peter Tierney, Asia head of the Depository Trust & Clearing Corporation in Singapore.

Indeed, many jurisdictions, including Australia and Japan, have regulated to comply with their G20 commitments ahead of Europe, tending to emulate the simpler Dodd-Frank model over the more complex EMIR.

Initial disquiet in Asia and uncertainty over the perceived burdens associated with Dodd-Frank and of Europe's reporting requirements have subsided and market participants and regulators are now acclimatised to the new environment, say observers. "When European banks first asked Asian entities to sign reports and send on data, their initial response was, 'I'm not European, so why do I have to do this?'," says Sandeep Mand, Asia head of rates sales and trading at Japan's Mitsubishi UFJ Financial Group.

Also, the complexity and scale of the data the regulators received initially had caught some of them off guard. While the past year can be characterised as one of getting used to new regulation, an interesting side effect was that the process spurred increased collaboration between regulators across Asia. For such a fragmented region, that could reap benefits.

"Standardisation is what the industry wants," says Ashley Walsh, chief operating officer for North Asia and regional business manager for Asia Pacific at dealer broker, ICAP. "A more harmonious system with sensible rules across the board is what's best for the industry."

It is relatively easy to report a trade to multiple jurisdictions if they all require the same information. "The next couple of years will be about getting positions that have already been reported in one jurisdiction onto the radar in other relevant jurisdictions," says Tierney. More sophisticated data sharing through new mechanisms would result in greater operational efficiency, by enabling, for example, a firm in Europe to satisfy Monetary Authority of Singapore requirements without a great deal of extra work.

But the next big test will be when firms are forced to set aside more capital for non-cleared trades, which will have an impact on profitability.

China's domination

Meanwhile, China's presence as a derivatives theme is increasing as the country opens up. Singapore Exchange's FTSE China A50 futures volume reached 41 million contracts in 2014, up from 22 million contracts in 2013. And though doubts have been voiced about the real level of the country's GDP (as China has been closed to offshore investors, except through the qualified institutional investor schemes), there is a lot of pent up demand for China-linked assets.

Most institutional investors across the world are underweight China. In June 2014, index provider MSCI announced it would not include China in its influential emerging markets index. It had included the country on its list for consideration the year before. If and when China is included, which could be this June when MSCI revisits the topic, the initial proposed weighting would be 5 per cent. Deutsche Bank estimates that could attract more than $7 billion to the country's A-share market, which would spur increased hedging and foreign exchange needs.

Connecting Hong Kong

Launched in November 2014, Stock Connect links the Shanghai and Hong Kong bourses, effectively creating a single China and adding 855 US$1 billion companies to those accessible through Hong Kong. The move is part of wide-ranging incremental liberalisations that have included establishing renminbi clearing banks in Sydney, Toronto, London, Frankfurt, Paris, Luxembourg, Seoul and Qatar over the past year.

"Derivatives based on China-linked assets create opportunities for both access to China and for those that are looking to hedge their risk," says Janice Kan, derivatives head at Singapore Exchange (SGX). "The China story is not a one-way street, it's volatile."

In October last year, SGX launched renminbi futures with volume reaching 9,549 contracts within two months. Meanwhile, Hong Kong Exchange's RMB currency futures volume hit an eight-month high of

> **"Initial disquiet in Asia and uncertainty over the perceived burdens associated with Dodd-Frank and of Europe's reporting requirements have subsided**

4,608 contracts on 9 December 2014. While both exchange volume stats on the Chinese currency are relatively modest, the potential is attractive. Demand for China derivatives will be driven by the internationalisation of the country's currency. To boost use of offshore renminbi, China has relaxed cross-border guarantee rules in the past year.

The currency is also becoming more popular for trade settlement. It is now the seventh most used currency for world payments, up from 13th in January 2013. SWIFT's latest RMB Tracker shows that 15 more countries are now using the RMB for more than 10 per cent of their payments value with China and Hong Kong compared to April 2013.

From April 2013 to November 2014, Germany increased its use of the renminbi with China and Hong Kong by 151 per cent, whilst RMB payments by Canada rose 346 per cent in the same period. The proportion of China's trade settled in renminbi rose to 25 per cent in November last year, up from 3 per cent in 2010, according to DBS Bank.

> **In October 2014, the UK became the first developed country to issue a sovereign bond denominated in renminbi, which was used for its foreign reserves**

Also fuelling demand for China-linked derivatives is growing interest in the so-called dim sum market. In October 2014, the UK became the first developed country to issue a sovereign bond denominated in renminbi, which was used for its foreign reserves. The CNH – offshore renminbi – bond market has doubled in size each year since 2008, to reach RMB 712 billion, including certificates of deposits, as of the end of October last year, DBS notes.

"We've seen an explosion of cross-border flows," says Mitsubishi's Mand. "As a result there is a lot of interest in currency swaps, China–US specifically. The market is becoming more liquid." Companies are also increasingly hedging their assets and liabilities. In the past they relied on the forward foreign exchange market. Now they are actively looking at currency swaps as an alternative, Mand adds.

Though China's GDP growth has declined, while the country moves further along the path towards liberalisation, it still stands at around 7 per cent and demand for derivatives will continue to grow, driving volumes higher and spurring innovation. ■

Working with start-up technology

Technology start-ups are sometimes disruptive as they can advance business models in great leaps, but larger firms can benefit from their innovation too. By **Dan Barnes**

"Smaller companies have the ability to come up with crazy ideas," says Dave Snowden at low-latency hardware provider Metamako, founded in May 2013. "The people running them have considerable investment in the company itself and that can really motivate people to get things done in a way that just having stock options in a bigger company doesn't do."

Harnessing this innovation talent is increasingly important for larger firms that are not able to take the same level of risks – or accept smaller profits – as start-ups can to build up a business. CME Group launched a Strategic Investment Group (SIG) in 2014 in order to stake investments in just such start-up technology firms in the sphere of the CME Group's business.

"Some start-up technology developments are disruptive because they could change the way we need to operate our business, how we interact with our customers, or open us to a broader set of customers to which we can provide a value-added service," explains Mark Fields, managing director of SIG at CME.

SIG includes a wholly owned subsidiary of CME Group, Liquidity

> **Gaining the resources of a larger firm can reduce the time to market for product development, which can be highly advantageous**

Ventures I, which provides funding for the investments. The team has reportedly evaluated more than 200 potential investment candidates, and has invested sums of between $500,000 and $5 million in four companies to date. These four investments have been diverse, including a cyber-security firm, a data analytics provider, a quantum computing software provider and a payments start-up.

"While CME Group has made several innovations in its long history, we did not invent the microprocessor, write Linux, create TCP/IP or fibre optics," Fields says. "General-purpose technologies like this have, over the years, had a profound impact on the way people trade and manage risk and operate their businesses.

"Making minority stake investments in early-stage technology companies will give CME a window on innovations that could strengthen our business and ability to provide service to our customers."

Ownership of such technology provides commercial opportunities but also access to the operational advantages it can confer. Start-up firms are able to develop technologies in a manner that can outpace larger firms, which can create potential disruption if combined with a strong strategy.

"Technology innovation and the business model go hand in hand," says Hirander Misra, chief executive at start-up exchange operator Global Markets Exchange Group (GMEX). "You need the right plan to make disruptive technology succeed and the greatest of products will still need the right technological support and distribution."

New cash flow

For established market operators and dealers facing competition from the likes of GMEX, innovation that drives new cash flow is very welcome. Margins have been squeezed in traditional lines of business post-crisis, with trading volumes in cash markets falling, impacting associated exchange-traded derivatives.

According to its annual reports, CME saw the volume of derivatives contracts traded fall to 2.5 billion in 2009 from 3.2 billion in 2008. It then averaged 3.05 billion over the next four years. Eurex has seen volume fall from 2.6 billion contracts in 2009 to 2.1 billion in 2013.

Market operators and brokers looking for additional revenue can either drive volume up, by enticing high-frequency trading (HFT) firms onto the markets or developing new products, or they can seek out income streams that are independent of trading patterns. By investing in start-up operations they can diversify potential revenue streams from products or technology without exposing themselves to the full burden of risk, as well as the administration and operations that an internal development project might create.

Their input also tackles a significant burden for the smaller business. "The real challenges we faced when we started in 2011 were to do with the costing side of things," explains Sanjay Shah, CEO of low-latency hardware firm NanoSpeed. "Obviously for firms like IBM and HP costs are not such an issue, whereas [in] a start-up one has to think of licensing costs for each tool, the hardware costs."

NanoSpeed develops field programmable gate arrays (FPGAs), chips that can effectively hold software code in hardware. By holding programming in hardware it is possible for trading systems to react fractionally faster than would be possible if information on trading

decisions were to be passed from software to hardware and back. That makes FPGAs valuable technology for latency-dependent HFT firms.

"An FPGA card is between $10,000 and $15,000 to buy, so if one is damaged that impacts our cash flow significantly," says Shah.

NanoSpeed took advantage of tutorship from larger financial services firms via the FinTech Innovation Lab, a 12-week programme in which chief information officers from 13 of the world's largest banks provide guidance and insight for tech start-ups. That helped to validate and strengthen the firm's strategy, while giving larger firms insight into front-line innovation.

That approach can prove much less restrictive than the wholesale acquisition of a firm, observes Metamako's Snowden. "We see examples of start-ups that are taken in by larger companies but then face some friction during the process as it can make it difficult to work as quickly," he says.

Overcoming barriers

Even apparently competitive firms can find advantage in partnership with start-ups. GMEX offers a constant maturity swap future that could rival products traded on larger exchanges. Deutsche Börse Group has become a minority investor in GMEX, while Eurex, Deutsche Börse's derivatives market, announced GMEX's Euro-denominated constant maturity future is to trade on licence on its Multilateral Trade Registration (MTR) service, with the product to be cleared on Eurex Clearing.

Gaining the resources of a larger firm can reduce the time to market for product development, which can be highly advantageous.

"We spent six months setting up infrastructure where the Ciscos of this world have that already," says Snowden.

"Launching a stand-alone market in derivatives is tough without the surrounding infrastructure," adds GMEX's Misra. "One of the ways that we solved the clearing problem was that we licensed the product to Eurex so it is traded on our technology but confirmed and cleared by Eurex. We turned what was a barrier into an advantage by creating something that is universally accepted as an exchange-listed product and finding a way to access post-trade market infrastructure."

Mergers and acquisition activity between exchanges has been restricted across borders or where it risked creating a monopoly. Innovation around products and technology refreshes are both expensive and risky. Yet, in Misra's view, technology will need to be enhanced, business models reinvented and flexibility found, making collaboration with start-ups increasingly important.

"Exchange 2.0 – the exchanges of the future – will be those that interconnect technologically but also interconnect on the basis of common clearing, across harmonised rules, across time zones with handovers from one to another," he says. ■

The lives of others

Today's financial markets technology is barely a generation old and largely self-built; perhaps it is time to draw on other fields. By **Adam Cox**

Want to succeed in the financial industry? Maybe you need a rock-solid grasp of the Sicilian defence. Or perhaps you could learn about aerospace hardware standard DO-254. Maybe brushing up on the principles of ease of use in IT design might make the difference? Or better yet, you could try working in a local sheriff's office or in the meat business.

On the surface, none of these activities has the slightest connection to the world of securities, derivatives, venues and trading technology. But they are all examples where people in the financial industry have borrowed from the playbooks of other professions. Finance is an industry that prides itself on being innovative, but it seems that sometimes it makes sense to look elsewhere for inspiration. Some of the most famous examples of financial wizards applying the lessons learned in other walks of life come from the world of chess. It stands to reason, since mathematics, logic and fast calculations are huge assets both on the trading floor and the chess board. According to a *New York Times* article, billionaire hedge fund manager Peter Thiel is a chess master, as is Boaz Weinstein, another top hedge fund manager.

To get an idea of what it can mean for the industry to spend more time looking outward and less time navel-gazing, we spoke to a few executives who had very different careers before working in finance. As the financial industry involves a tremendously wide range of activities, we spoke to people in different areas of the markets: from trading and technology to deal-making.

Flying high

Sanjay Shah is the chief technology officer at NanoSpeed, a company that makes cutting-edge field-programmable gate array (FPGA) chips, hardware that is configured by users after manufacture. But before figuring out how to build systems for what his company calls 'hyper-fast trading', Shah worked in the aerospace industry.

The transition wasn't as radical as it sounds, since Shah was also working in FPGA technology in his previous profession. "I was the FPGA team lead for Airbus A350 engine management and control systems," he explains. "That actually involved using the very rigorous design methodology that the aerospace industry follows."

One of the lessons he learned was to design things in as simple a way as possible and doing the design and verification independently. In the case of markets, money is at stake, but in the case of aircraft, lives are. "That actually helped me a great deal in setting up the design flow in NanoSpeed," Shah says. "As you can imagine I learned quite a lot from the rigorous approach that the aerospace industry has."

So, if a particular engineer has designed something, Shah makes sure a separate engineer does the verification independently. Could this lesson be taken more in the financial industry? Often firms don't separate these tasks, he says. "In the financial industry, because of time pressures... the engineers can be putting the two hats on at pretty much the same time."

As for that DO-254 standard, that comes from a concept called requirements traceability, which is very big in the aerospace industry. It ensures that through every part of the design process, requirements are traced. "That again is a practice I've borrowed from the aerospace industry," Shah says.

Non-techies welcome

Christian Nentwich is co-founder and CEO of Duco, a company that has made headlines in the financial press for its innovative approach to reconciling trades.

When Nentwich was working on his PhD in computer science, you can pretty much bet that reconciling trades was not what he expected he would be doing in his future life. In fact, he only entered the financial industry in the past year.

"We now solve a particular problem, which is reconciliation of trades against clearing houses and internally. But actually, that wasn't the problem we set out to solve," he says.

The problem Nentwich and his co-founder wanted to solve was how to make non-technical people, who don't have the expertise to deal with dirty or complex data, able to reconcile and compare data without resorting to spreadsheets or ringing up the IT department. In fact, he wasn't even thinking about the futures industry when he was working on the problem.

"We think that there's a general problem out there – there's a lot of manual work going on in financial markets," he explains. "Tens of thousands of people go to work every day with highlight pens and Excel spreadsheets to compare data, which is really not a job that is best done by a human being because looking at hundreds of thousands of trades and spotting breaks is an error-prone process."

In this case, Nentwich used natural language processing and hosted technology rather than large, installed software. The good news is that in areas such as compliance and audits, he sees exciting companies doing things differently and more cheaply and effectively than would have been possible before.

Nentwich says the ease-of-use guiding principle is something that is definitely coming from outside the financial industry. "Just look at what an ease-of-use revolution has been going on in the consumer world in the last five to ten years. It's been driven by all the mobile devices being used by a much wider population."

"In finance it's quite tricky because data quality is quite challenging," Nentwich adds. "But really what you want to do is to take the ops people you've hired, who really understand the business and the data, and just give them something that they can access so you can make full use of their business knowledge."

Nentwich says the finance industry is one of numerous segments that could learn this essential finding.

"There's evidence in other industries that anything that empowers people to do their job, without having to ask help from someone else, always wins in the end."

In the case of markets, money is at stake, but in the case of aircraft, lives are

Law and order

Anthony Brocco is CEO of Advanced Markets, a company that provides direct market access in the foreign exchange market. Before that, he worked in the commodities markets. And before that, he worked in the meat industry and in a sheriff's office.

For Brocco, it's all about forging connections with people. "In every business, it's relationships. You know, when I worked for the sheriff's office, you built relationships. It makes the job easier and it makes you more trustworthy," he says.

Advanced Markets operates a foreign exchange market based on the principle that it is designed to match customer orders with banks' liquidity for a disclosed commission rather than profit from their flows. "When I came into this industry and when we started dealing with foreign exchange and we registered ourselves as an FCM [futures commission merchant], there was really just one model of doing business and that was where the FCM becomes the counterparty to clients' trades," Brocco explains.

That model, he felt, didn't value client relationships. So he built a new model for the FX market, based on the agency model futures markets.

Brocco says bringing people into the financial industry from other walks of life can often be a good thing. "Whenever everybody views things the same that becomes the norm," he says. "But when a company has brought in people from other backgrounds the reaction invariably is: 'Wow, we never thought of doing it like this'." ■

ABOUT US

FIA Europe's mission is to be the regional thought leader, advocate and educator connecting the centrally cleared derivatives industry. Representing some 170 firms, the Association is principally concerned with financial and commodity exchange-traded and centrally-cleared derivatives and seeks to assist its members through the cycle of regulatory change. Members range from banks, brokers, commodities firms and other financial institutions, exchanges and CCPs as well as professional service companies.

FIA Europe works with its members to maintain constructive dialogue and engagement with European government and regulatory authorities and deliver high standards of industry practice. It submits formal position papers and responses to regulatory discussion and consultation papers; facilitates an exchange of views; and resolves issues between members and others through committees and member meetings.

Such engagement enables it to produce and issue industry guidelines, publications and legal opinions. An extensive documentation library helps reduce members' costs through initiatives that involve the pooling of member resources in order to meet regulatory requirements and/or common commercial objectives such as facilitating commercial dealings or addressing areas of risk.

Currently, these subscription services include a comprehensive set of Client Terms of Business documentation, as well as Netting Analyser, an enhanced legal opinions library which helps firms to maximise their regulatory capital efficiency, reduce the amount of required collateral, effectively mitigate credit risk by funded credit collateral and ensure that collateral posted with CCPs is bankruptcy remote. A new project is the CCP Risk Review, under the FIA Global umbrella, which offers subscribers a comparative assessment of the rules and procedures of CCPs across the globe.

FIA Europe is affiliated with FIA under the structure of FIA Global. Under this arrangement, FIA, FIA Europe and FIA Asia have strengthened their influence on cross-border issues, substantially increasing the coordination and information flow between regions and providing a powerful global voice to express the views of their members. The organisations preserve their ability to deal with legislative, regulatory and market issues in their respective regions and continue to operate with their own leadership and staff, separate boards of directors and distinct memberships.

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