Q&A
House Ag Committee chair Mike Conaway

TECHNOLOGY
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CCPs
Location, supervision, recovery and resolution

IQ

ISDA® Quarterly

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* LEAP TO MIFID II

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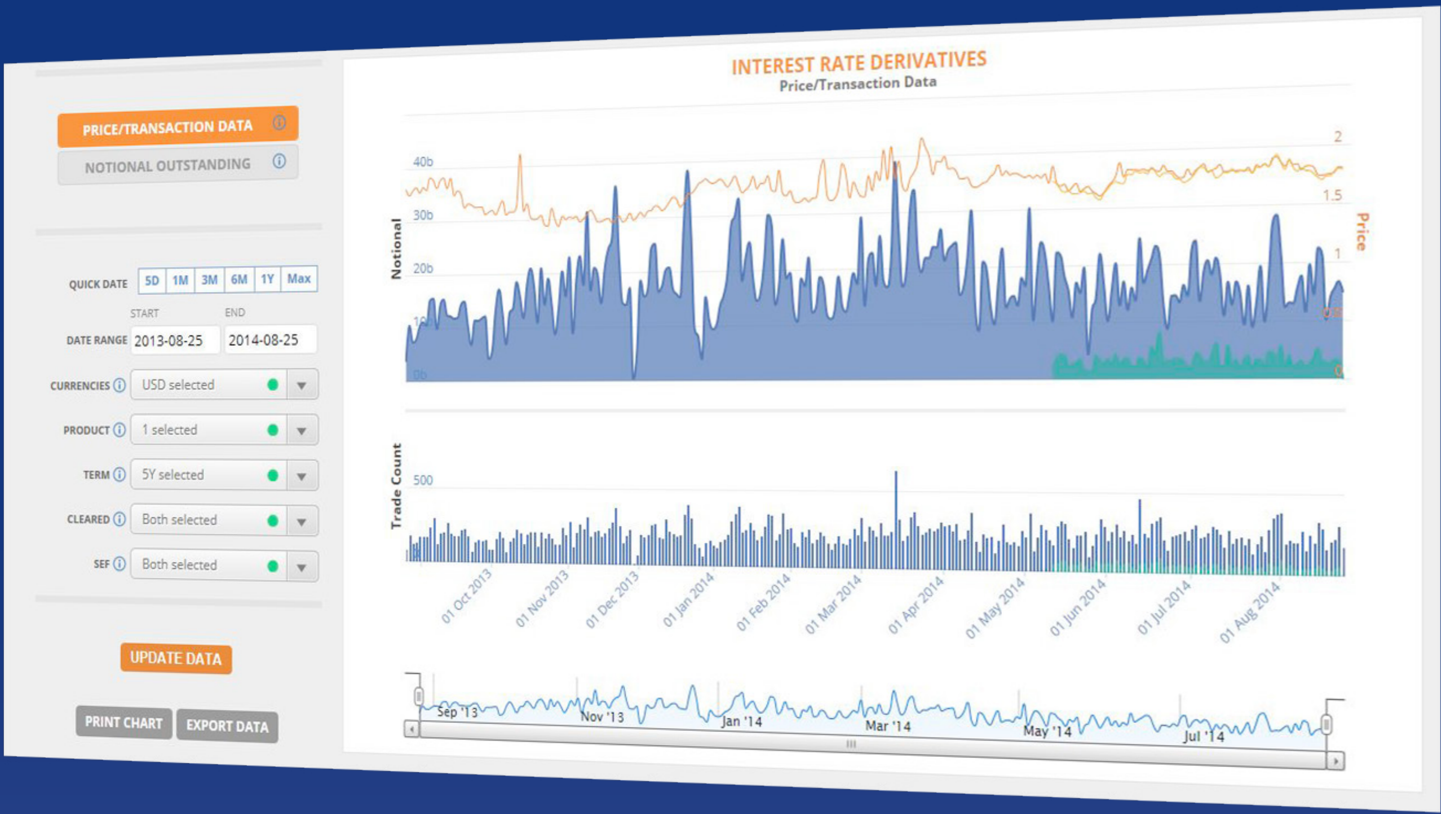

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Making History

January 3 may not be the most famous day of the year, but it does have something of a noble history. It's the day Apple Computer was incorporated (1977), Cicero and JRR Tolkien were born (106 BC and 1892 AD), Martin Luther and Fidel Castro were ex-communicated (1521 and 1962) and Leonardo da Vinci was said to have tested his flying machine (1496; the test failed).

Only time will tell if January 3, 2018 deserves to be added to this list. That's the day the revised Markets in Financial Instruments Directive (MIFID II) is set to be implemented. That fact alone is fairly momentous, as it will change how financial activity is conducted across the European Union (EU). But its larger significance may well be that it is the last major piece of regulatory reform to be implemented on either side of the Atlantic following the financial crisis.

It is therefore important for financial markets and market participants that January 3 goes well. And by 'go well', we mean that the trading and financial activity that is essential to the broader economy transitions relatively smoothly to the new regime. This doesn't mean there won't be any operational problems – there surely will be. But hopefully, there will be a constructive approach and quick action to resolve them by market participants and the public sector.

By 'go well', we also mean that there are no cross-border hiccups that exacerbate market fragmentation. At the most basic level, this requires an EU-US equivalency agreement on trading venues in each region. Such an agreement won't solve every problem, but the alternatives are a bit depressing to consider.

Assuming January 3 does go well, then what of it? What comes next? First, a collective sigh of relief from both the private and public sectors. Then we need to start thinking about how the entire regulatory framework fits together. Because it's the last piece of reform to be implemented in the US and EU, the rollout of MIFID II should act as a signal to take stock of the regulatory framework created over the past 10 years to see if it is accomplishing its original objectives. This doesn't mean rolling back regulation en masse, nor does it mean gutting the reforms put in place that mitigate systemic risk and support safer, more robust markets. But it does involve examining whether we are achieving those objectives efficiently and in ways that support deep, liquid markets.

Thankfully, such efforts are already under way – in the US via the US Treasury reports on financial markets regulation, and in the EU via the review of the European Market Infrastructure Regulation.

Steven Kennedy
Global Head of Public Policy
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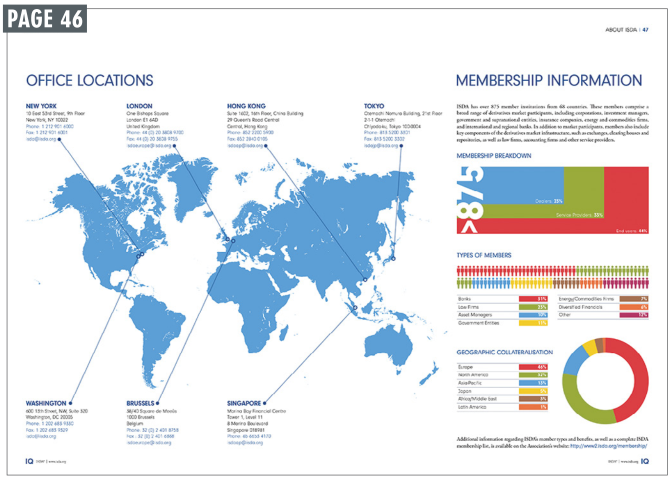

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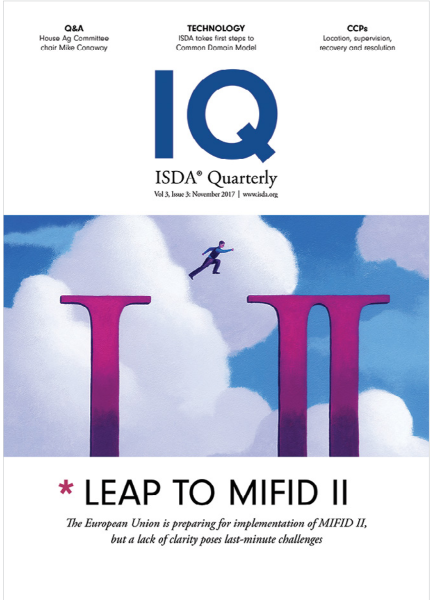

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"The essential purpose of derivatives markets is to facilitate the transfer of risks, so end users of derivatives products can control their costs and focus on what they do best – running their business"

Mike Conaway, House Committee on Agriculture

A Busy Agenda

*The Group of 20 derivatives reforms are now in place, but the to-do list for ISDA and its members is as full as it's ever been, writes **Scott O'Malia***

It's been an incredibly busy year for ISDA, and it doesn't look like it will let up any time soon. Having dealt with subjects as varied as the global variation margin 'big bang', a change in the US administration, Brexit-related issues, benchmark transition, smart contracts and preparations for the revised Markets in Financial Instruments Directive (MIFID II), the agenda for 2018 looks equally packed with big, weighty topics like these.

Benchmarks will continue to be a major focus for ISDA. It's impossible to overstate how important and transformative the shift from the IBORs to alternative risk-free rates will be for both retail and wholesale market participants. The planning and preparation needs to start now. ISDA intends to provide leadership on this issue, and we've started a global outreach effort to engage with all sectors of the market, including buy side, sell side, regulators and infrastructure providers. The end result will be a coordinated global roadmap that builds on the work being done by the various public-private sector working groups, and identifies both the challenges and possible solutions associated with these transitions.

"It's impossible to overstate how important and transformative the shift from the IBORs to alternative risk-free rates will be for both retail and wholesale market participants"

Cross-border harmonisation also remains an area of critical focus. ISDA has worked hard to highlight the importance of a globally harmonised regulatory structure. In September, we published a whitepaper in which we propose a risk-based framework for comparability determinations. By looking only at those rules that are meant to tackle risk and assessing whether they are comparable in outcomes to the rules of other jurisdictions, it avoids a time-consuming, granular rule-by-rule analysis that can ultimately result in failure.

In fact, there has been some recent progress on cross-border issues. A commitment to trading equivalence by the European Commission and Commodity Futures Trading Commission (CFTC) in October was a very significant step and has eased concerns about a possible fragmentation of trading liquidity, but a legal equivalence determination needs to be in place before the end of the year to ensure cross-border trading is not affected once MIFID II is implemented.

Additional regulatory topics in Europe include an ongoing review of the European Market Infrastructure Regulation (EMIR). ISDA supports this analysis, and has proposed areas where the existing EMIR rules could be made simpler and less burdensome for end users without reducing safety and soundness – for instance, through modifications to the reporting requirements.

Europe isn't the only jurisdiction to be taking a look at its regulatory framework with the aim of removing duplication and unnecessary compliance costs. The CFTC has embarked on an initiative called Project KISS to identify where its rules can be made simpler and more risk appropriate. The US Treasury, meanwhile, is conducting its own review of financial regulation to ensure it supports market liquidity, investment and lending in the US economy. We support each of these initiatives, and have fed into the consultation process.

Technology is another core focus. The current derivatives infrastructure is complex, duplicative and heavily reliant on manual intervention. At the same time, banks are facing increased capital requirements, high costs and pressure on profitability. Distributed ledger and smart contracts offer the possibility of greater automation and efficiency, but standards are required to fully realise their potential. We recently published a conceptual version of the ISDA Common Domain Model (CDM), which is intended to create a comprehensive standard digital blueprint for how derivatives are traded and managed right across the lifecycle of a trade. After taking feedback from the industry, our next step is to build a digital version of the CDM.

These are just a small handful of the issues ISDA and the derivatives industry are working on. All are critical to our core mission – to foster safe and efficient markets. It promises to be an extremely busy year ahead.

Scott O'Malia
ISDA Chief Executive Officer

ISDA to Produce Analysis on Benchmarks Transition

ISDA has announced that it will conduct a comprehensive analysis of the issues and potential solutions related to transitioning financial market contracts and practices to new alternative risk-free rates (RFRs).

The new report will consider how interbank rates, or 'IBORs', are currently used across financial markets. It will also explore potential adjustments required to transition from IBORs to RFRs for both new and existing contracts. This may include documentation issues, the potential for value transfer, threats to market liquidity, the requirement for term fixings and differences in credit spreads between existing and new rates, among other topics. In addition, the report will outline a roadmap of any identified solutions, along with a timeline for actions required to implement them.

"The transition away from IBOR rates to alternative RFRs will pose an unprecedented shift for the entire financial industry, from the derivatives to the mortgage sectors. Building on the public-private sector initiatives and the identified risk-free rates, ISDA will work at a global level to identify specific required solutions to enable the various transitions in different jurisdictions. Derivatives are used to hedge products across a variety of sectors, so it is fundamental that any potential solutions take into account the interconnectedness of the markets. Time is relatively short, so it's critical that the industry starts thinking about the issues now," says Scott O'Malia, ISDA's chief executive.

The analysis will include a targeted global survey to identify the means by which market participants can effectively implement regional benchmark transitions. It will incorporate feedback from all sectors of the market, including banks, mortgage providers, asset managers, non-financial corporations, regulators, central banks and trade associations. A global consultancy firm will be commissioned to run the research, which is expected to be published in the first quarter of 2018. IQ

BACKGROUND ON IBOR TRANSITION

- Interbank rates such as LIBOR, EURIBOR and TIBOR (known collectively as the IBORs) are floating rates based on the average level at which an IBOR contributor bank can obtain unsecured funding in the interbank market for a given period in a given currency.
- As a result of alleged manipulation of IBORs and other financial benchmarks in the aftermath of the financial crisis, a series of reviews were published, starting with the Wheatley Review of LIBOR in the UK in September 2012.
- This was followed by a broader set of principles on benchmarks issued by the International Organization of Securities Commissions in July 2013, and a further, more targeted report on interest rate benchmarks by the Financial Stability Board (FSB) in July 2014.
- The FSB's report noted that liquidity in the transactions underpinning certain of the IBOR rates had decreased to the extent that they are unable to support such a widely traded benchmark on a sustainable basis across all relevant tenors. The FSB therefore recommended transitioning to alternative risk-free rates (RFRs).
- Individual working groups have been set up in several jurisdictions, including the UK (the Working Group on Sterling Risk Free Reference Rates), US (the Alternative Reference Rates Committee), Switzerland (the National Working Group on Swiss Franc Reference Rates) and Japan (the Japanese Study Group on Risk Free Reference Rates), to bring together public- and private-sector market participants to determine the most appropriate RFRs. European policy-makers also recently announced the launch of a similar public-private sector working group for a euro RFR.
- The selected rates are SONIA in the UK, SOFR in the US, SARON in Switzerland and TONA in Japan.
- In July 2017, the chief executive of the UK's Financial Conduct Authority (FCA), Andrew Bailey, announced that the FCA would no longer compel or persuade banks to provide submissions for LIBOR post-2021.
- The FCA's announcement has prompted the industry to begin focusing on transition strategies for new and legacy contracts. In the US, the Alternative Reference Rates Committee has developed a paced transition plan.
- In the meantime, ISDA is working on an initiative to determine robust fallbacks for certain key IBORs in a scenario when an IBOR is permanently discontinued. The intention is that these fallbacks – where applicable, likely to be based on the RFRs selected by the relevant public-private sector working groups – would be written into derivatives documentation for those trades that reference an IBOR.
- The fallback working groups are also considering methodologies to account for the fact that the IBORs reflect bank credit risk, while the RFRs do not. This could result in a spread being added to an RFR once a fallback has been triggered to mitigate value transfer.

New Concept Paper Aims to Realise Technology Potential

ISDA has published a conceptual version of its ISDA Common Domain Model (CDM), which sets out the required elements to achieve a single digital representation of trade events and actions – an important precursor to realise the full potential of new technologies, such as distributed ledger and smart contracts.

As well as providing a common foundation for new technologies like distributed ledger, the cloud and smart contracts to facilitate consistency and interoperability, the ISDA CDM is intended to reduce the current need for continual reconciliations that address mismatches caused by variations in how each firm records trade lifecycle events. It will also enable consistency in regulatory compliance and reporting.

"Current infrastructures are old, complex and duplicative, and are heavily reliant on manual intervention and reconciliation"
Scott O'Malia, ISDA

When fully developed, the ISDA CDM will provide an industry standard blueprint for how derivatives are traded and managed across the lifecycle, and how each step in the process should be represented. Establishing a common set of data and processing standards that all participants can access and deploy will facilitate interoperability between firms and technology platforms.

"Current infrastructures are old, complex and duplicative, and are heavily reliant on manual intervention and reconciliation. At the same time, banks are facing increased capital requirements, high costs and pressure on profitability," says Scott O'Malia, ISDA's chief executive.

"New technologies offer significant opportunities to increase automation and create efficiencies, but automating a single business or function isn't enough. Likewise, unilateral development of bespoke technologies will inevitably lead to the same disjointed and fragmented market infrastructure that we see today. In order to unlock the value presented by new technologies, we need a common set of representations that cover the full range of trade events, which can then be applied by these technologies," he adds.

ISDA CDM version 1.0 – a conceptual document – was published in mid-October. ISDA subsequently issues a request for quotations on October 31 for the development of a digital version. The next step is to develop the framework to build an executable digital version that can eventually be used for proofs of concept. IQ

| See pages 30-33.

ISDA Proposes Risk-based Cross-border Framework

A new paper published by ISDA in September sets out a risk-based framework for cross-border comparability assessments, which is established on a set of risk-based principles.

The proposal is intended to help smooth the process for regulatory comparability assessments, reducing the risk of failure and a resulting fragmentation of markets. By focusing comparability assessments on those rules intended to address or mitigate risk, the proposal is aligned with the objectives of the Group of 20 (G-20) to reduce the risks associated with derivatives transactions.

"Getting the cross-border derivatives framework right is absolutely critical. Without recognition, firms would be forced to comply with duplicative rules on a jurisdiction-by-jurisdiction basis, which discourages cross-border trading and leads to a fragmentation of liquidity. By assessing only those rules that are meant to tackle risk, and determining whether they achieve comparable outcomes with the rules of another jurisdiction, it avoids an unnecessary, granular rule-by-rule analysis that takes a lot of time and can ultimately result in failure," says Scott O'Malia, ISDA's chief executive.

The paper proposes risk-based principles for making the determinations, and then analyses the derivatives regulatory frameworks of certain G-20 countries against those principles.

Under the risk-based principles, foreign regulations that oblige firms to establish capital and margin requirements in line with the G-20 commitments would be deemed comparable. Likewise, overseas rules that require entities to develop sound risk management policies to address risks posed by derivatives business, maintain an effective and accurate system of records, and make swap data available to regulators would demonstrate comparability. Foreign jurisdictions that have clearing and settlement services that comply with Bank for International Settlements/International Organization of Securities Commissions principles and have similar clearing mandates should also be deemed comparable.

If a foreign jurisdiction meets the risk-based principles, ISDA believes it should be granted substituted compliance in full. IQ

| Read the full paper here: http://isda.link/crossborderpaper

Time Ripe for Rule Review, say O'Malia and Litvack

The regulatory reviews under way in both the US and European Union (EU) provide an important opportunity to remove duplication, complexity and unnecessary cost in rule sets, while maintaining safety and stability of the financial system, according to ISDA chief executive Scott O'Malia and chairman Eric Litvack.

Speaking at ISDA's policy conferences in Washington and London in September, both O'Malia and Litvack welcomed the reviews as a chance to consider which rules are working as intended, and to identify areas where the framework could be further improved.

"Now is the time to take a long hard look at the rules and see where we can make them more effective and less costly while retaining the protections they provide," said O'Malia.

The US Treasury has so far published three reports on US financial regulation, with the second on October 6 focusing on capital markets and derivatives. The Commodity Futures Trading Commission (CFTC) has also begun a review of its rules called Project KISS, with the aim of making the regulations simpler and reducing compliance burdens for users. Meanwhile, the European Commission (EC) is conducting a review of the European Market Infrastructure Regulation in order to remove inefficiency and costs.

These reviews follow extensive changes to the financial regulatory framework to make the derivatives market safer, more transparent and more resilient. The largest banks have raised over $1.5 trillion in new capital, while the introduction of margining requirements has meant the largest 20 dealers held nearly $1 trillion in collateral on their non-cleared derivatives trades at the end of March 2017. In addition, more standardised transactions are being cleared through central counterparties – 77% of interest rate derivatives notional outstanding was cleared as of end-June 2017, according to the Bank for International Settlements.

"It's clear that a great deal has been achieved to help make the financial system safer and more resilient. But it's equally clear we should strive to ensure the rules are appropriate, and complexity and duplication within the framework are eliminated. This unnecessarily increases the cost and compliance challenges for derivatives users. These costs impact liquidity and risk management, so it's important we get the balance correct," said O'Malia.

Litvack also highlighted the work done by regulators and the industry to make the financial system more robust, but argued there is room to improve the rules

> "We think there's scope to streamline and simplify certain requirements to remove needless complexity"
>
> **Eric Litvack, ISDA**

by responding to issues that have emerged since the rules were written. "I don't think anyone can honestly say, hand on heart, that every single clause in the 800-or-so pages of Dodd-Frank, and every single one of the hundreds of rules subsequently rolled out, were 100% perfect first time round. We think there's scope to streamline and simplify certain requirements to remove needless complexity – complexity that imposes a hefty compliance burden on intermediaries and end users for little benefit. That risks deterring hedging, trading and investment," he said.

There are currently many specific examples of complexity in the rules, he said – from the absence of commonality in data requirements and formats, to the lack of harmonisation between CFTC and Securities and Exchange Commission rules. "It should be possible to have a framework that is safe, efficient and appropriate – that ensures resiliency of the financial system and encourages economic growth, market liquidity and effective risk management," Litvack added.

The need to balance strength, appropriateness and efficiency also applies to bank capital rules, he said. While repeatedly raising capital will further increase the resiliency of banks to extreme market events, the cost of capital allocated to a business will eventually be out of line with the risks and returns of that activity. "At that point, the business becomes uneconomical and difficult to run on a sustainable business," Litvack said.

Some banks have already started to pull back from certain activities, but further measures in train by the Basel Committee on Banking Supervision – in particular, the Fundamental Review of the Trading Book (FRTB), the net stable funding ratio and the leverage ratio – could make that trend more pronounced, he said.

For instance, the leverage ratio requires banks to count segregated client initial margin towards their leverage ratio exposure, even though this collateral can only be used to cover a client default. Including it in the leverage ratio increases the amount of capital needed to support client clearing activities. "That has made it more difficult for clearing members to provide this service, prompting some to scale back or withdraw," Litvack said.

As part of its review of financial regulations, the US Treasury has proposed delaying domestic implementation of the FRTB until the rules can be appropriately calibrated and assessed. In addition, it has recommended recognising the exposure-reducing effect of initial margin for cleared derivatives in the supplementary leverage ratio.

The EC has also proposed a three-year phase-in for the FRTB, and has made a similar proposal to the US Treasury on the leverage ratio.

Litvack welcomed these measures, but called for calibrations to be reviewed at a global level to avoid inconsistencies in implementation.

"We think it's important for the calibration and implementation timeline of these measures to be globally consistent as far as possible to prevent fragmentation and an unlevel playing field. The Basel Committee is monitoring various aspects of the rules, and continues to engage with the industry, which we welcome. We hope the committee will consider adjustments to rules or calibrations wherever widespread concerns result in the risk of global regulatory divergence. Any adjustments should also be made with an eye on economic growth by ensuring the rules are proportionate and sensitive to risk," he said. IQ

Regulators Highlight Role of Finance in Economy

Financial market regulation should enhance the stability of the system, but without impeding economic growth and the efficient functioning of markets, according to keynote speakers at ISDA's Regulators and Industry Forum in Singapore on November 13.

In his opening address, Ong Chong Tee, deputy managing director responsible for financial supervision at the Monetary Authority of Singapore, likened the financial system to a house that has to be both secure and liveable.

"Just as houses must not only be safe but also functional, so too must the financial system be able to support the activities of its participants. The reforms are set out to strengthen the safety of the system, but not regardless of economic cost or to impede the ability of market participants to function properly. We can always build a house with many more pillars, fences, gates and other defences that would assure it can never be at risk of collapse, but we also need to consider its liveability," he said.

A key objective is to ensure new regulatory requirements take the financial sector's support of the broader economy into account, said Ong. Various impact studies are now under way to assess the effect of the new rules and to identify any unintended consequences, including inconsistencies between individual requirements.

As an example, Ong pointed to the leverage ratio and its impact on client clearing. Specifically, the requirement for banks to count segregated client collateral towards leverage ratio exposure could discourage firms from offering client clearing services, contrary to a Group-of-20 objective to boost clearing activity.

"Therefore, in the next phase of our work on the reforms, sector regulators will have to work closely towards greater consistency and coherence with the inputs of all market participants," said Ong.

Another important factor is to consider how domestic rules operate across global borders, and Ong noted that Asia-Pacific authorities are working closely with each other, as well as with US and European Union (EU) regulators, to address cross-border issues.

In keynote remarks at the conference, Commodity Futures Trading Commission (CFTC) chairman J. Christopher Giancarlo also spoke about the role of derivatives in supporting economic growth, and identified the need to reform certain requirements to support that objective.

"All people – whether they live in America or here in Singapore – aspire to see their families thrive amidst broad-based economic prosperity. Vibrant and resilient financial markets have a critical role to play in underpinning economic progress. The CFTC intends to do its part to carry out our regulatory mission in ways that enhance markets and their underlying vibrancy, diversity and durability," said Giancarlo.

> "Vibrant and resilient financial markets have a critical role to play in underpinning economic progress. The CFTC intends to do its part to carry out our regulatory mission in ways that enhance markets and their underlying vibrancy, diversity and durability"
>
> **J. Christopher Giancarlo, Commodity Futures Trading Commission**

One of the issues highlighted by Giancarlo was the need to improve the US swap execution facility (SEF) rules to foster greater market efficiency. Current CFTC rules are inflexible and overly prescriptive, and have acted as a disincentive to SEF trading, he argued.

"The path the CFTC pursued was an attempt to re-engineer the entire market structure of swaps execution. Instead of raising the standards of conduct of the professionals handling swaps transactions on SEFs, the CFTC sought to dictate the business models of the SEFs themselves. Instead of establishing the SEF regulatory construct to be salutary to liquidity formation, the CFTC turned SEFs into environments that are unconducive to it," he said. The CFTC is considering action to resolve these issues, he added. "Look for us to say more about this in the coming year."

Giancarlo also pointed to the importance of central counterparty (CCP) resilience given increased clearing activity since the crisis. The CFTC recently completed its second stress test of CCPs, which focused on funding liquidity. The test concluded that the three CCPs subject to the stress test had the ability to generate sufficient liquidity to fulfil settlement obligations during the immediate end-of-day cycle. These stress tests will be further refined over time to establish a stress-test regime that is "thorough, data driven, econometrically sound and reflective of multi-CCP operations and their role in dynamic market ecosystems", Giancarlo said.

Cross-border supervision of CCPs is another important area – and Giancarlo expressed his concerns about proposed changes to CCP supervision by the European Commission and the possible enhanced role of the European Securities and Markets Authority (ESMA). "I am particularly opposed to elements of the proposal that would have ESMA subject US CCPs to overlapping EU regulation and supervision without due deference to existing CFTC regulation and supervision of those US CCPs – due deference that was already agreed to between the EU and the US in the 2016 common approach for transatlantic CCPs," he said.

The extent of ESMA's supervision of US CCPs should be limited within the final EU legislation, in line with the 2016 common approach, he argued. But while opposed to direct oversight of US CCPs by EU authorities, Giancarlo stressed the importance of maintaining a strong relationship with Europe. "If EU authorities will work with us in a collaborative manner that is deferential to our jurisdiction over our domestic markets, it will find no better friend and partner than the United States in our common goal of reforming swaps markets for greater resiliency and vitality supporting global prosperity," he said. IQ

THE COVER PACKAGE

Leap to MIFID II

MIFID II is close to being rolled out, but the scale and complexity of the rules, coupled with a lack of clarity in certain areas, continue to create implementation challenges

Acronyms are not unusual in financial markets, but the list is about to get a lot bigger. OTFs, SIs, TOTV, LIS and SSTI – these are just a selection of the terms that are about to elbow their way into Europe's financial vernacular as the revised Markets in Financial Instruments Directive (MIFID II) comes into force.

Scheduled for implementation from next year, MIFID II and its accompanying regulation, MIFIR, will introduce new trading venues, a trading obligation, a new transparency regime and strict reporting requirements, among other things. It is vast in scale, and it's very, very complicated. So much so that it's difficult to find many practitioners who are truly confident its implementation will be completely smooth and without incident.

That's partly due to a lack of clarity in key areas. For example, market participants point to a critical need for equivalence decisions to avoid crippling liquidity fragmentation. There has been some recent progress between the European Commission (EC) and the Commodity Futures Trading Commission, but trading venue equivalence needs to be in place before the end of the year to ensure cross-border trading is not affected after the start date of MIFID II.

Outside of MIFID II, there's plenty going on to keep firms busy. Along with the start of the EU Benchmarks Regulation from January 1, European regulators are reviewing the European Market Infrastructure Regulation (EMIR), with the objective of reducing complexity and unnecessary costs. The EC is also reviewing rules for the supervision of third-country central counterparties (CCPs) – and, as part of that, has proposed a location policy for those CCPs that pose significant systemic importance to the EU.

In this issue of **IQ**, we take a quick tour of some of the issues keeping European policy-makers busy. The first article looks at MIFID II, and highlights some of the remaining areas of uncertainty. We then turn to the review of EMIR, and highlight the requirements that would benefit from reform. We round off the package with an article on CCP supervision, and present ISDA's analysis on the impact of a possible location policy for third-country CCPs. IQ

"Clarity that comes at the eleventh hour may not be timely enough to allow the market to adapt systems"

Eric Litvack, chairman, ISDA

* March to MIFID II

After years of drafting and negotiation, MIFID II is close to implementation, but there remains a lack of clarity over fundamental issues affecting the derivatives market. **IQ** *presents a high-level guide to what practitioners need to know*

By any measure, Europe's financial markets look set for a monumental transformation next year. The implementation of the recast Markets in Financial Instruments Directive (MIFID II) will have far-reaching implications for market participants, spanning numerous geographies, operational functions and asset classes.

Yet with just weeks to go until this major new rulebook is scheduled to be adopted across the European Union (EU) on January 3, 2018, there remains a lack of clarity on some of its key provisions – to the extent that many institutions have had to make their own interpretations over exactly what is required to ensure they are ready on time.

"The objectives of MIFID II are laudable: seeking greater transparency on a wider range of instruments, getting more transaction reporting to supervisors and facilitating more organised trading – these are all important. But the rules themselves are complex, often contradictory and often ambiguous, so I really don't expect that we will get it right first time," says Eric Litvack, chairman of ISDA.

MIFID II and its accompanying regulation, MIFIR, have been a long time coming. Ten years after the 2007 implementation of the original directive, which opened up Europe's cash equity trading market to greater competition, the review extends the scope beyond equities and introduces a host of new requirements on trading, reporting, transparency, best execution and governance. It has been in the works since 2011, and an original implementation deadline of January 2017 was delayed by a year to give regulators and market participants time to get their systems and processes in place.

Among its many provisions, MIFID II fulfils a key Group-of-20 (G-20) commitment, made at the Pittsburgh summit in 2009, that all standardised over-the-counter derivatives should be traded on exchanges or electronic platforms, where appropriate. The US Dodd-Frank Act brought swap execution facilities (SEFs) into existence in 2013 to meet the electronic platform commitment, but it has taken the EU until now to follow suit.

Platforms

Several different categories of electronic platforms will exist under MIFID II and MIFIR. A multilateral trading facility (MTF) is a platform introduced by the original MIFID requirements, which brings together multiple buyers and sellers of a particular financial instrument in a way that results in a trade. MIFID II also introduces the concept of an organised trading facility (OTF), which is similar to an MTF but designed for non-equities.

Unlike an MTF, OTFs will be permitted to use discretion when matching buyers and sellers. This is intended to boost liquidity and price transparency in less liquid instruments. It is not yet known how many OTFs will operate under MIFID II, but it is expected that a number of interdealer brokers, energy platforms and other operators will seek OTF licences for their swaps trading platforms.

An additional category of platform is a systematic internaliser (SI), which is defined as an investment firm that deals on its own account by executing client orders outside of regulated trading venues on an "organised, frequent, systematic and substantial" basis. An SI is distinct from the other platforms in that it is operated by a counterparty drawing on its own internal liquidity, rather than by a market operator bringing together third-party buyers and sellers.

Trading obligation

These broad platform definitions have been known for some time, but market participants have needed clarity on which products would be subject to a trading obligation


Illustration: James Fryer

and when. It was only on September 29, with little more than three months to go until the implementation date, that the European Securities and Markets Authority (ESMA) finalised its long-awaited draft regulatory technical standard (RTS) on the trading obligation for derivatives.

While the RTS may be one among many relating to MIFID II and MIFIR, it is this standard that directly implements the G-20 commitment and will therefore impact most heavily on European derivatives trading. The RTS had been more than a year in the making, following a discussion paper in September 2016 and a subsequent consultation in June 2017.

Given the trading obligation should only apply to those contracts that are sufficiently liquid and available for trading on at least one trading venue, ESMA elected to initially limit it to fixed-to-floating interest rate swaps denominated in euro, US dollar and sterling, as well as iTraxx Europe Main and iTraxx Europe Crossover credit default swap indices.

"ISDA is supportive of many aspects of ESMA's approach to determining which derivatives contracts should be subject to the trading obligation. The product list will bring standardised and liquid benchmark swaps onto trading venues, fulfilling the G-20 commitment. However, there are still several areas where the approach would benefit from clarification or improvement," says James Roberts, director of European public policy at ISDA.

One of the main concerns about the trading obligation relates to the timing of its implementation and the need for equivalence agreements in advance, particularly with the US. Without equivalence, a cross-border transaction between a US and EU counterparty for a product that is mandated for trading on a SEF under Dodd-Frank and an EU trading venue under MIFID II could not go ahead because it would not satisfy the requirements of both jurisdictions.

An equivalence agreement would ideally mean the US Commodity Futures Trading Commission (CFTC) →

"Trading equivalence, in particular, would help to address and mitigate concerns regarding potential market fragmentation ahead of the January 3 start date for MIFID II"

Scott O'Malia, ISDA

"If packages are obligated to trade on venues when there aren't any venues able to trade them, then that becomes an insurmountable issue"

James Roberts, ISDA

→ and European Commission (EC) would mutually recognise and accept the rules in each other's jurisdictions, so a US counterparty could still satisfy its regulatory obligations by trading on an OTF or MTF rather than a SEF, and vice versa. Given the large volume of cross-border derivatives trading, this was flagged as a major issue by industry participants.

"Equivalence is a big matter – it could cause problems if the US and Europe are unable to execute a trade because a US firm is unable to fulfil its CFTC obligations on a European venue and vice versa for the European firm. The US gets a lot of airtime, but there is Asia and other countries as well, where we desperately need to get some equivalence," said Jamie Brigstock, director in G-20 rates trading and sales business manager at Citi, speaking at ISDA's annual Europe conference in London on September 28.

Good news came on October 13, when the CFTC and the EC announced an agreement on equivalence for margin requirements for non-cleared derivatives. As part of the same announcement, the two agencies said they would also propose equivalence for trading venues in each jurisdiction, provided the relevant platforms satisfy domestic requirements.

"The announcement on trading and margin equivalence is a very positive and important step forward in efforts to ensure robust and liquid global markets that enable firms to efficiently manage their risks through derivatives. It demonstrates that an outcomes-based approach to substituted compliance and equivalence can be achieved. Trading equivalence, in particular, would help to address and mitigate concerns regarding potential market fragmentation ahead of the January 3 start date for MIFID II," says Scott O'Malia, chief executive of ISDA.

A definitive agreement between the US and Europe had not been announced by the time **IQ** went to press, however. Market participants also would like to see equivalence agreements between Europe and other key jurisdictions, particularly in Asia-Pacific, before the trading obligation is adopted.

October 13

CFTC and EU agree a common approach on trading venue equivalence

Unlike the US, most jurisdictions in Asia-Pacific have not adopted a trading obligation, on the basis that derivatives trading volumes are much lower and would not benefit from the introduction of a mandate. But equivalence still matters in countries where there is no trading obligation. If a European firm currently trades products subject to the trading obligation through a branch or subsidiary in one of those countries, then that business would have to be repatriated back to Europe, where it could be transacted on a regulated venue in line with MIFID II.

"Without such agreements, European firms stand to be at a competitive disadvantage in third countries where domestic firms can either trade on their own country's trading venues or can continue to trade bilaterally," says Roberts.

In its final RTS, ESMA recognised the widespread concerns over the need for equivalence, and said it would not be opposed to a short delay – not exceeding three months – in the application of the trading obligation. However, given the G-20 trading obligation was originally made in 2009, ESMA advised against any significant delay and suggested to the EC that the largest counterparties – known as categories one and two – should apply the trading obligation from early 2018.

"The proposed start date is problematic, both for operational reasons, but in particular if there are not equivalence decisions in place. Also, we still don't know how the trading obligation applies to package transactions. While we very much welcome the commitment from the EC and CFTC to work towards recognising each other's derivatives trading venues, the determination still needs to be finalised and we are concerned that insufficient time will be given to the industry to operationalise such an agreement," says Roberts.

TRANSPARENCY CHANGES

Pre- and post-trade transparency is the cornerstone of the revised Markets in Financial Instruments Directive and regulation (MIFID II/MIFIR) as a means of raising the efficiency and fairness of European financial markets. While the mechanism for reporting trade details may be reasonably clear, the process for determining which derivatives are subject to the requirements is exceptionally complicated.

Crucially, MIFIR does not require that all over-the-counter (OTC) derivatives should be subject to transparency requirements, in recognition of the fact that public reporting can adversely impact liquidity in some cases. Only instruments that are 'traded on a trading venue' (TOTV) must be reported. While this is a relatively simple concept for equities, bonds and exchange-traded derivatives, it becomes more complicated for OTC derivatives that are transacted bilaterally between two counterparties.

In an opinion issued in May 2017, the European Securities and Markets Authority (ESMA) expressed its view that only OTC derivatives sharing the same reference data characteristics as derivatives traded on a trading venue should be considered TOTV, and therefore subject to MIFIR transparency requirements.

This means that, from January 3, 2018, reference data will become critical in determining the scope of the MIFIR pre- and post-trade transparency reporting rules. The Association of National Numbering Agencies (ANNA) Derivatives Service Bureau (DSB) is set to become a critical component of the market infrastructure, as it will generate international securities identification numbers (ISINs) for OTC derivatives, which are required for firms to trade financial instruments that are TOTV.

"It was always obvious what TOTV meant in the context of a share, but it became increasingly clear over the past few years that it is much more complicated for OTC derivatives. Using reference data as the point of comparison is not a perfect solution, and there are several technical issues we have raised with ESMA, but our members have made some assumptions and are now focused on compliance," says James Roberts, director of European public policy at ISDA.

In practical terms, these requirements mean that an investment firm that is subject to MIFID II must take certain key steps before trading a new OTC derivatives contract to determine whether it is TOTV. First, it must submit the reference data characteristics to ANNA-DSB, which will then send back the ISIN if one exists, and hopefully indicate whether the contract is TOTV.

Once an OTC derivatives trade is confirmed as TOTV, and therefore subject to the transparency requirements, it must be made public via an approved publication arrangement (APA) within 15 minutes of execution. Several APAs are set to operate in Europe, and investment firms will need to make sure they are set up to report to them.

On a pre-trade basis, it is incumbent upon trading venues and systematic internalisers to ensure the details of in-scope instruments are made public at the same time they are made available to clients.

The reporting framework does include exemptions for transactions that are considered sufficiently large or illiquid for this kind of transparency to be deemed detrimental. The specific thresholds used to determine those exemptions – known as large-in-scale and size-specific to the instrument – are determined by a trade percentile and a volume percentile that is set by ESMA on the basis of European trading volumes. In June, ESMA published some initial calculations that clarify which contracts will be considered liquid from January 3, as well as the various thresholds associated with those contracts.

"It will be up to national competent authorities to grant the exemptions through pre-trade waivers and post-trade deferrals," says Roberts. "The UK Financial Conduct Authority has said its general approach will be to grant those waivers and deferrals where legally permissible. But while this limits the proportion of the OTC derivatives market subject to pre-trade transparency, and the immediacy of when trades are required to be made public post-trade, the complex process of determining which trades are TOTV still applies."

Packages

Beyond equivalence, further concerns relate to the treatment of package transactions, which make up a large proportion of the interest rate derivatives market. If a package contains a trading-obligated component, it is still unclear what obligations would apply. Most trading venues will only handle standardised packages, so if the trading obligation captures a wider range of products, then it poses questions over the future of less standardised packages.

In its final RTS, ESMA acknowledged the need for clarity on the treatment of packages, but added that its mandate for developing the trading obligation did not extend to providing a tailored regime for packages. Further clarity can be expected in the form of a Q&A, but this is not expected until less than three weeks before MIFID II comes into force. As with equivalence, there is concern that this gives insufficient time to adjust trading practices ahead of the January 3 deadline.

"This is a huge issue because the majority of the rates market is traded via packages and we don't currently know what legal protocols are acceptable. If packages are obligated to trade on venues when there aren't any venues able to trade them, then that becomes an insurmountable issue," says Roberts.

Concern over package transactions is not unique to MIFID II. The CFTC has grappled with the issue for several years, with successive rounds of no-action relief from the requirement to trade packages on SEFs. But no such exemption mechanism exists in Europe, meaning clarity is needed prior to implementation to avoid negative consequences for the market.

→

"Everyone is having to make assumptions and hope that they are right as things develop, but clarity that comes at the eleventh hour may not be timely enough to allow the market to adapt systems"

Eric Litvack, ISDA

→ ISDA has suggested that only those packages where all components are subject to mandatory clearing under the European Market Infrastructure Regulation and where at least one component is subject to the MIFID II trading obligation should be brought into scope. This would theoretically ensure only the most standardised and liquid packages are subject to the trading obligation, but ESMA has not yet indicated if it would be well-disposed towards such an approach.

"The suggestion from ESMA's guidance seems to be that a package with at least one trading obligated constituent is itself trading obligated, but that doesn't make sense if there is no venue that makes trading available for it, and would effectively undermine the whole concept of packages," says Litvack.

While the trading obligation may be only one component of a vast new regulation with much broader implications, it is the issues surrounding equivalence and packages that are likely to dominate the derivatives industry both before and after MIFID II enters into force. The need for further clarity is not unique to the trading obligation – it also permeates to other key components, including the complex pre- and post-trade transparency regime (see box, *Transparency Challenges*).

"Everyone is having to make assumptions and hope that they are right as things develop, but clarity that comes at the eleventh hour may not be timely enough to allow the market to adapt systems. Implementation based on the best understanding of the rules has been the general approach, but there could be a very significant slowdown in trading from January 3 as a result of the uncertainty," Litvack says. IQ

THE LEI CHALLENGE

In the scheme of global financial reform, it might appear odd that a 20-character alpha-numeric code could become a major sticking point, but the partial adoption of legal entity identifiers (LEIs) threatens to derail the process of transaction reporting, which is a legal requirement under the revised Markets in Financial Instruments Directive (MIFID II).

Obtaining an LEI is neither complicated nor costly, but a large number of issuers and clients – in particular, outside of Europe – do not currently have LEIs, which means their trades with European counterparties cannot be properly reported to regulators as required from January 3. ISDA has sought to raise awareness – especially among corporates – of the urgent need to obtain LEIs and the risk of being cut off from the European market without one.

"Firms in Asia-Pacific will need to get LEIs in order to trade with European financial institutions once MIFID II comes into effect. Awareness of the issue is growing, but only a fraction of the region's derivatives users have applied for an LEI so far and time is running out," says Keith Noyes, Asia-Pacific regional director at ISDA.

LEIs are issued by local operating units of a global LEI system, which is coordinated by a regulatory oversight committee of 71 public authorities. As of May 2017, the committee estimated more than 500,000 entities from 195 countries had obtained LEIs, but as MIFID II comes into force, it will become painfully clear which jurisdictions lag behind.

"Given the LEI is required for a number of functions, including making requests to trade, it's possible that some venues may have to reject trades after January 3 if clients don't have an LEI. We don't yet know how the different trading venues will programme for this, but it's certainly a major concern," says Eric Litvack, chairman of ISDA.

Information on LEIs
English: http://isda.link/leifaqsheet
Japanese: http://isda.link/japaneselei
Simplified Chinese: http://isda.link/simplifiedchineselei
Traditional Chinese: http://isda.link/traditionalchineselei
Korean: http://isda.link/koreanlei

* Brexit and Contracts

ISDA analysis suggests Brexit will unlikely have any impact on the performance of existing contractual obligations, but the execution of certain lifecycle events could be affected

There's been a lot of recent focus on the impact of Brexit on the derivatives market. That's no surprise. Derivatives are widely used by companies across Europe to create certainty and stability in their business, and to manage their risk. ISDA has spent a lot of time looking at the contractual certainty of derivatives trades, and recently conducted analysis on one specific part of this issue: the ability of banks and investment firms to perform existing contractual obligations under transactions between the 27 European Union (EU) member states and UK counterparties that were entered into before Brexit. This analysis focused on six jurisdictions – France, Germany, Italy, the Netherlands, Spain and the UK.

The good news is that the analysis shows there is unlikely to be any impact on the performance of contractual obligations on existing trades – which includes payments, settlements, transfer of collateral and the exercise of pre-agreed options. That's an important point: cross-border trades between EU 27 and UK entities won't all of a sudden fall away after Brexit. However, certain events or actions that occur during the lifecycle of a transaction, and which are outside of contractual obligations, could be affected – although the exact impact differs country to country, based on the law of the applicable jurisdiction (EU 27 member state or UK).

For instance, a novation, certain types of portfolio compression, the rolling of an open position (extending the maturity of a trade), material amendments and some types of unwind may be classed as a regulated activity. That means that, without passporting rights under the Markets in Financial Instruments Directive (MIFID), investment firms, credit institutions and branches would either need to rely on an equivalence decision or an exemption, or obtain a local licence in the relevant jurisdiction in order to continue to perform these lifecycle events. That could be time-consuming and pose a significant operational burden on firms, which could potentially result in disruption to financial markets.

These types of lifecycle events are frequent, and allow counterparties to manage their exposures and risk. Portfolio compression, for instance, allows firms to reduce the size of their derivatives books by tearing up multiple trades and leaving target risk profile – a concept included in the European Market Infrastructure Regulation and MIFID as a key systemic risk-reduction measure. Transitions from the IBORs would also require an amendment of contracts.

The good news is that the analysis shows there is unlikely to be any impact on the performance of contractual obligations on existing trades

Given the significant volume of derivatives trades between counterparties in the EU 27 and the UK – and the fact that these lifecycle events are common and required by regulations in some cases – it's critical that firms in both the EU and the UK are able to carry out the full range of actions that have been agreed. It's clearly in everyone's interest – whether they are located in Munich, Milan or Manchester – that performance of these lifecycle events on existing cross-border trades isn't interrupted post-Brexit.

As a result, we think it's important that provisions are put in place that allow EU and UK counterparties to manage their transactions after Brexit. We would encourage policy-makers to consider all available options now, including coordinated legislative action, insertion of language into a separation agreement, or ultimately wording within the EU-UK withdrawal agreement that allows entities to continue to perform a wide range of lifecycle events. This isn't about winners or losers. It's about ensuring the safety and efficiency of this market post-Brexit for both EU and UK counterparties. IQ

Further reading: Read ISDA's FAQs on Brexit: www.isda.org/2017/10/01/brexit-faqs/

* Refit Reaction

The European Commission is reviewing its European Market Infrastructure Regulation, with an eye to making the framework simpler and more cost-effective, especially for smaller derivatives users. What changes could – and should – be made?

The post-crisis derivatives reforms introduced substantial changes to make the financial system safer, more transparent and more resilient. With those changes now in place, there's a growing recognition that certain aspects of the reforms impose unnecessary compliance costs and burdens on end users, for little benefit. Regulators in both the US and Europe are now reviewing their rules with an eye to making them more efficient and less complex. By recognising what works well and what could work better, the objective is to make the regulatory framework stronger and reduce the excessive burdens that discourage trading, investment and hedging.

In the European Union (EU), one part of this process has come about via a review of the European Market Infrastructure Regulation (EMIR). According to the European Commission (EC), the aim is to "eliminate disproportionate costs and burdens to small companies" that might impede their access to markets, without putting financial stability at risk.

Following a public consultation on EMIR in 2015, the EC reported in November 2016 that the fundamental requirements of EMIR are crucial to ensuring transparency and mitigating systemic risk, and would therefore remain in place. But it noted that some amendments may be needed to reduce disproportionate costs and burdens on end users. As a result, the review of EMIR was included in the EC's 2016 Regulatory Fitness and Performance programme (Refit). The first set of proposed changes were published on May 4 (see box), which set out a number of modifications to reduce costs and burdens without affecting financial stability.

While these proposals are positive, ISDA believes certain other amendments would help further simplify the regulatory framework. "The proposals make several significant improvements to the existing rules, but we believe that certain other, targeted modifications would further strengthen the framework, create greater certainty for derivatives users, and eliminate remaining areas of complexity," says Roger Cogan, head of European public policy at ISDA.

Reporting

EMIR currently requires both parties to a trade to separately report transaction details – an approach that is at odds with the rules in other major jurisdictions, where reporting responsibility is left in the hands of one counterparty. This dual-sided reporting approach imposes significant cost burdens on end users, but without improving the quality of reported data, as pairing and matching rates are low. An end user can delegate its reporting requirements to a dealer under the current rules, but it retains liability for the accuracy of what is reported.

Under the EC's proposed changes, legal responsibility for reporting transactions with a non-financial counterparty (NFC) not subject to the clearing obligation would fall entirely on the financial counterparty. This represents a step towards a more proportionate response, but it does not eliminate the burdens on derivatives users. For one thing, a significant part of the market would continue to be subject to dual-

There's a growing recognition that certain aspects of the reforms impose unnecessary compliance costs and burdens on end users, for little benefit

"The proposals make several significant improvements to the existing rules, but we believe that certain other, targeted modifications would further strengthen the framework, create greater certainty for derivatives users, and eliminate remaining areas of complexity"

Roger Cogan, ISDA

sided reporting requirements. In addition, if a reconciliation requirement for the NFC is included in regulatory technical standards – as occurred under the Securities Financing Transactions Regulation – then end users will also be required to connect with multiple repositories, meaning they still face a reporting compliance burden.

A simpler and more effective approach would be to introduce an entity based framework, where sole responsibility for reporting is assigned to one counterparty[1].

Scope and Timing

The EMIR review proposals modify the definition of a financial counterparty to include alternative investment funds (AIFs), which are currently categorised as NFCs. While the proposal attempts to ensure consistency in the treatment of hedge funds under EMIR, the redefinition would capture AIFs that may not pose risk to the EU system. The change could also have unintended consequences – the definition is not territorially limited, so in theory covers all hedge funds globally, regardless of where they are domiciled or where they trade.

Changes to the financial counterparty definition would be particularly challenging for securitisation special purpose entities (SSPEs), which would become subject to clearing and margining rules – even though the securitisation swaps conducted by these entities are already fully collateralised. SSPEs typically do not have the systems, controls, staff or authority to exchange further regulatory margin or clear derivatives, which would fundamentally alter the economics of securitisation.

"Unless this is addressed, this change could potentially have a negative effect on European securitisation," says ISDA's Cogan.

ISDA also believes all transactions with EU and non-EU central banks, debt management offices and multilateral development banks should be exempt from the EMIR requirements, in line with the treatment in other jurisdictions.

When it comes to timing, many of the changes would take effect just 20 days after publication in the EU's Official Journal. ISDA believes this would cause major practical difficulties and is too short a time to deal with the necessary changes in counterparty classification and reclassification. The industry believes a longer effective date is necessary in these instances.

In addition, there is uncertainty over the effective dates of some of the proposals. Some firms that will become financial counterparties for the first time under the proposals will not benefit from the small financials exemptions until six months after they are brought into force. This creates an awkward window that may increase the operational burden for end users. ISDA also believes further consideration also needs to be given to the alignment of the EMIR proposals and the revised Markets in Financial Instruments Directive (MIFID II). For instance, supervisors should consider whether the ability to suspend the clearing obligation for certain products under EMIR should also apply for those products in the context of MIFID II's trading obligation.

Clearing

The EC proposed various changes to the clearing rules, with the intention of reducing costs for smaller derivatives users and improving access to clearing. For example, the May 4 proposals suggest a new clearing threshold for small financial counterparties should be introduced, so →

[1] http://isda.link/entitybasedreporting

→ those entities that trade infrequently and do not pose a systemic threat are not subject to the clearing obligation. The EC has also proposed that the clearing requirement for NFCs should only apply for a particular asset class where a clearing threshold has been breached. That marks a change from current rules, where a breach of a clearing threshold in one asset class would require an NFC to clear instruments subject to a clearing obligation in all asset classes.

ISDA believes the proposals could be further enhanced in a number of ways. For the small financials proposal, the EC should make the threshold calculation optional, so those firms that want to clear, or think their derivatives activity is in excess of the threshold, are not required to conduct the calculation. This would reduce the operational burden on financial counterparties. There is also a case for a broader exemption for certain small financial end users that also includes margining requirements for non-cleared derivatives below a specified de minimis threshold. Such an approach is in place in the US, where an exemption exists for commercial banks, savings banks, farm credit institutions and credit unions with total assets at or below $10 billion.

EMIR REVIEW – MAY 4 PROPOSALS

The European Commission's proposals for a review of the European Market Infrastructure Regulation include:

- Non-financial counterparties (NFCs) below the clearing threshold would automatically delegate reporting to financial institutions, with responsibility for accuracy also falling on the financial counterparty.
- Non-financials would not have to report their intragroup trades, although this only applies to intragroup trades within European Union borders.
- Removal of the backloading requirement, which requires reporting of derivatives transactions entered into before February 12, 2014, but no longer outstanding on that date.
- Removal of the frontloading (retrospective clearing) requirement.
- A 'fair, reasonable and non-discriminatory' requirement to be imposed on clearing members in relation to their clearing and indirect clearing offer to clients.
- Suspension of the clearing obligation within 48 hours, for renewable periods of three months, for reasons of financial stability, lack of availability of clearing houses, or changes to the suitability of products for clearing.
- Exempts small financials from clearing if their activity falls below threshold levels applied for the purpose of the NFC+/- test. These small financials would be required to comply with non-cleared margin rules.
- Non-financials exceeding the clearing thresholds would only have to clear products subject to mandatory clearing in the asset classes where they exceed the clearing threshold.
- Pension schemes to obtain a further three-year (post entry into force) exemption from clearing, extendable by a further two years.

The NFC proposal, meanwhile, could be made more consistent by clarifying that NFCs exceeding the clearing threshold in one asset class should be exempt from non-cleared derivatives margining requirements in other asset classes, as well as being exempt from clearing. In both instances, however, there are systems, documentation, capital, netting (in the case of bilateral trades) and re-pricing issues with the introduction of a broader exemption regime, so ISDA supports allowing NFCs and small financial entities to clear and post non-cleared margin if they choose to.

Another important focus for the EMIR review is access to clearing. As part of that, the EC has proposed that clearing members should be required to offer services to clients on a fair, reasonable and non-discriminatory (FRAND) basis. ISDA supports this aim in principle, but further clarity is required on the meaning of this phrase, particularly on the interpretation of 'non-discriminatory'.

"FRAND requirements should not result in a mandatory clearing offering, and should not prevent firms from offering and operating clearing services in a competitive, commercial and prudent manner," says ISDA's Cogan.

Firms should not be obliged to provide clearing services to an existing or prospective client if that customer does not meet the risk or commercial requirements of the firm's onboarding policy, ISDA believes. Failure to do so may discourage firms from providing clearing services, and may actually reduce the availability of client clearing services in the market.

Other proposed enhancements to the EMIR review relate to the clearing obligation. The EC proposes a mechanism to temporarily suspend a clearing obligation if, for example, a clearing house fails or liquidity in a particular product evaporates. However, ISDA believes the suspension mechanism could be further improved by providing more power to the European Securities and Markets Authority (ESMA), and giving it the flexibility to act in a wide range of circumstances. There should also be transparency over when a suspension is being considered, and regulators should have the ability to back-date the exemption in situations where it was difficult to clear in the run-up to the suspension. Participants should not be required to clear trades executed during the suspension period once it has been lifted.

Changes are also necessary to ensure there is greater clarity over the scope of the clearing obligation. To avoid the accidental extension of the clearing obligation as central counterparties (CCPs) clear non-standard variants of a product already mandated to clear, ISDA believes EMIR should be amended so the only products mandated to clear are those that were offered by CCPs at the time of ESMA's clearing determination.

On top of the refinements to the clearing obligation, the EC proposals seek to improve the transparency of CCP initial margin requirements by obliging CCPs to provide a margin simulation tool to clearing members, and to provide greater disclosure of information on the margin

> "FRAND requirements should not result in a mandatory clearing offering, and should not prevent firms from offering and operating clearing services in a competitive, commercial and prudent manner"

Roger Cogan, ISDA

model. This reflects the fact that CCP resilience is one of the highest priorities for systemic risk management. However, ISDA believes further enhancements to initial margin transparency should be made. Margin simulation tools should be able to produce the initial margin for a given portfolio, the additional margin required to clear new trades, and the initial margin needed to clear any given transaction on a standalone basis. It would also be useful for the simulation to provide incremental default fund contributions for these cases. These could then be used to estimate additional default fund contributions for new client portfolios or changes in the overall portfolio.

ISDA also recommends that CCPs produce a self-assessment versus the Principles for Financial Market Infrastructures established by the Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions (CPMI-IOSCO).

Margin

As it stands, EMIR requires market participants to post variation margin on physically settled FX swaps and forwards – an obligation that will come into force for FX forwards from January 3, 2018 as a result of their classification as financial instruments under MIFID II. The EU is the only jurisdiction to have this variation margin requirement hard-coded into regulation, and critics think it will impact broader FX market liquidity, the global competitiveness of EU banks, and the ability of firms to hedge. A proportionate treatment for these instruments – particularly for client-facing trades – would bring the EU closer in line with the regimes in the US, Japan, Hong Kong and elsewhere.

"European authorities should urgently address this effective regulatory asymmetry in the short term, given the effective date for margin requirements for physically settled FX forwards early next year, long before the impact of any changes to EMIR level one could take effect," says ISDA's Cogan.

The EC has also expressed a desire to validate initial margin models. However, these models would have been in use in some cases for a number of years by the time the EMIR revisions come into effect. This means less sophisticated, smaller firms at the end of the initial margin phase-in may be subject to burdensome validation procedures that did not apply to larger firms that had to post regulatory initial margin earlier. In addition, there are concerns that EU validation would mean an inconsistent application of initial margin requirements between the EU and other jurisdictions. ISDA has already established an open and transparent Standard Initial Margin Model (ISDA SIMM) that has been in use since the first phase of initial margin implementation and is responsive to regulatory modifications.

Equivalence

The lack of equivalence decisions, particularly for the purposes of clearing and margin requirements, could put the international operations of many firms at a competitive disadvantage by requiring, for example, that margin be posted and collected multiple times. This outcome would harm both banks and their clients, many of which are major European corporates that make significant contributions to outbound and inbound trade and investment flows from EU to non-EU markets.

ISDA believes further detail is required on the practical application of EMIR's equivalency framework. When EU counterparties trade with counterparties established in, or subject to the rules of, an equivalent jurisdiction, they should be allowed to mutually agree which set of equivalent rules would apply to a particular trade between them. EMIR should also allow for separate equivalence decisions to be made for specific EMIR obligations, rather than a single, all-encompassing equivalence decision. This would allow for greater flexibility and greater choice for EU market participants. All equivalence decisions should be made using an outcomes-based approach.

* Location Trepidation

The European Commission has proposed rules for the oversight of third-country central counterparties, which include a possible location requirement for those CCPs that pose a significant systemic risk to the EU. ISDA analysis suggests this approach could present a number of potential challenges

The final shape of the post-Brexit landscape is still very much unclear. But in one area at least, the European Commission (EC) has made its intentions plain. As part of a proposed overhaul of central counterparty (CCP) supervision, those third-country CCPs deemed to be of substantial systemic importance to the European Union (EU) financial system will be required to follow EU clearing rules, will be subject to supervision by the European Securities and Markets Authority (ESMA), and could even be required to relocate to the EU. While European regulators have stressed this would only occur as a last resort, the location proposal marks a significant departure from the existing equivalence framework, and has prompted industry concerns about the potential implications.

The EC's proposal was published on June 13, and sets out a two-tier approach for classifying third-country CCPs. Under the first tier, non-systemically important CCPs will mostly continue to be able to operate under the existing equivalence framework. Those third-country CCPs considered to be systemically important would fall under the second tier, and will be subject to stricter requirements. These include compliance with the relevant EU prudential and central bank requirements, and agreement to provide ESMA with all applicable information and to enable onsite inspections.

However, ESMA and the relevant EU central bank would also be able to recommend to the EC that any third-country CCP considered to pose substantial systemic

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Scott O'Malia, ISDA

importance to the European financial system should be established in the EU. In announcing the proposal, EC vice-president Valdis Dombrovskis stressed this approach would only be applied as a final straw.

"In some specific circumstances, and as a last resort, authorities may require individual CCPs to be established within the EU. This would be only when a CCP is of substantial systemic importance and enhanced supervision by ESMA is not sufficient to safeguard financial stability," he said.

Nonetheless, the potential for a location requirement, and the lack of clarity on how it would be applied, has raised concerns among industry participants.

"ISDA and its members have significant concerns about the impact of a potential CCP location requirement. Such a policy would lead to fragmentation of markets, reduced competition, lower liquidity, increased risk and higher margin requirements, which would increase costs for clearing members and their clients in the EU," says Scott O'Malia, ISDA's chief executive. "We are unable to support an approach that gives rise to such serious risks, and believe the aim should be to develop a global shared supervision model that relies on regulatory cooperation, coordination and deference."

In a response to the EC in October, ISDA set out its concerns in detail, along with its recommendation for the coordinated management of systemic risk through supervisory cooperation (see box).

16-24%

Estimated increase in initial margin from a location policy for clearing member house accounts

Correlation

The mechanism for the location requirement set out in the EC's proposal is non-recognition of a third-country CCP. Only EU 27 counterparties would be directly affected by the non-recognition approach.

A CCP clearing a limited set of transactions is expected to have fewer clearing members than a CCP with a global membership profile. Should one of the members at such a CCP default, the loss not covered by margin will be mutualised between fewer clearing members, leading to a larger risk and liquidity burden, and higher risk of the shock spreading through the system in a stressed situation. There would also be fewer members that can spare traders to participate in the default management groups of the CCP, which support the default management process, and fewer firms with the capacity to bid in a default auction or accept clients of the defaulted clearing member(s). This increases the risk of a failed auction, triggering much broader systemic risk.

As a location policy will only affect EU 27 firms, the credit risk of the clearing members at the onshore CCP(s) will likely be more correlated than at a global CCP. Splitting a liquidity pool in any portion will reduce the size and resilience of the onshore CCP(s).

Separating a portfolio from a global CCP is estimated to increase margin by 16%-24% for house accounts. Margin models at CCPs are highly risk sensitive, and increased initial margin (IM) levels therefore point to increased risk in the overall system. Given the strict requirements for portfolio netting laid down by the European Market Infrastructure Regulation, the netting benefits in a CCP are based on economic links between risk factors and observed data.

Interconnectivity

CCPs are designed as fire-stops to insulate clearing members and their clients from each other's credit risk. If liquidity pools are fragmented, then non-EU domiciled firms offering liquidity in the EU 27 market would likely hedge their market exposures in the larger global liquidity pool. This will come with a cost in normal times, potentially leading to a basis, but it will also increase systemic risk in times of crisis, as large variation margin calls in stressed markets will affect the liquidity of these banks.

For a member with offsetting risk across CCPs, a large market move would trigger a significant intraday cash inflow at one CCP and a corresponding cash outflow at the other CCP. With only one CCP clearing all transactions, these amounts would net down to a single payment or receipt. But with more fragmented clearing, the clearing member would need to fully fund the intraday margin call from the CCP that it owes, and could not rely upon a receipt from the other CCP to help fund the payment. For a range of risk management reasons, the typical practice for CCPs is to cover margin shortfalls intraday but not to pay out gains. This will increase intraday funding needs, possibly by many multiples. In a stressed environment, intraday liquidity is likely to be difficult to source in general. Moreover, the liquidity stress would spread to the broader financial system beyond the CCP.

Choice

Establishing a location policy would mean that EU 27 firms will have a restricted choice of CCPs where they can →

Establishing a location policy would mean that EU 27 firms will have a restricted choice of CCPs where they can clear contracts subject to the location policy. This restricted choice will stifle competition and innovation in normal times

→ clear contracts subject to the location policy. This restricted choice will stifle competition and innovation in normal times, and reduce alternatives to clear in stressed times. This can lead to increased clearing fees, raising the cost of clearing for banks and end users.

ISDA has argued that clearing participants should have a choice of where to clear over-the-counter derivatives. This is for reasons of competition, innovation and having a fallback in a crisis. This choice should be market driven, not based on mandates. So far, most products are cleared at one dominant CCP. However, there are options to each of these dominant CCPs (see Table 1).

The table shows that for each dominant CCP, there is one or more alternative CCPs to help ensure competition and innovation. A location policy will therefore mean less choice.

Migration risk

Unless the location policy allows 'grandfathering' of existing positions, a large number of transactions and a huge quantum of risk will have to be transferred between CCPs. Due to the significant volume of transactions, it will be nearly impossible for affected clearing members and their clients, including investment managers, to migrate transactions one-by-one. The CCP has to have a matched book, so a counterparty has to be found for each contract to be transferred that is willing to take the other side of that transaction – one for both the source and target CCP.

TABLE 1: CCPS BY ASSET CLASS

Product/Asset Class	Dominant CCP	Alternatives
IRS	SwapClear	CME, Eurex, regional CCPs
CDS	ICE (US and EU)	CDSClear
FX	ForexClear	CME, Eurex, HKEx

Unlike large clearing members, which have memberships at many CCPs, clients usually clear at only a few CCPs per asset class. They will have to bear additional costs if they have to establish a new relationship with the onshore CCP, as well as possibly a new relationship with a clearing broker offering access to this CCP. Smaller clients could struggle finding a broker at all. During migration, they will also have to follow the lead of their clearing member regarding when and how to migrate.

Such an exercise would create incredible operational challenges and legal complexities. No regulator in any jurisdiction has attempted to implement a location policy (or any other type of policy) involving movement of such a vast amount of derivatives-related risk from one CCP to another, let alone from a CCP in one jurisdiction to another. This would likely result in significant disruptions and increased systemic risk.

Legal complexities include membership agreements with new CCPs if required, updating of documentation with all affected clients that would need to access another CCP, and negotiations to close the risk at the existing CCP. Moving transactions from one CCP to another would involve entering operationally and legally unchartered waters.

Basis

Fragmenting a market leads to inefficiencies and higher costs for all parties involved. This is the result of margin inefficiencies and an expectation of more friction and higher trading costs.

Clearing mandates do not universally cover all participants in the derivatives market due to exceptions – for instance, corporates that use derivatives for hedging, or pension funds. This leads to an imbalance in a CCP, as most participants are financial entities with similar hedging needs – paying fixed and receiving floating.

This overall directionality of clients will cause the portfolios of dealers to be equally directional. Dealers will price the higher margin for these directional portfolios into client transactions, making them more expensive than the same trades at a CCP with greater and broader liquidity.

It is not possible to know in advance whether a basis will develop between onshore and offshore euro interest rate swap (IRS) clearing services. Given there is currently a basis in similar constellations, including CCPs without a location policy, a basis is at least very likely and a risk not to be ignored.

Should a European asset manager require a typical hedge of a €100 million euro IRS swap with 10 years maturity and with a PV01 of €97,500 (based on market data as of August 11, 2017), a basis of 1 basis point (bp) would lead to additional cost of €7,500 = €97,500 *1bp = €97,500.

This additional cost – a multiple of the income of an average pension saver – would ultimately be borne by EU 27 investors. Even a corporate with a hedging exemption would be affected: the corporate would either contract with an EU 27 firm, which would be under the same pricing constraints, as they have to hedge at the onshore CCP, or – if they are large enough – would decide to hedge via a third-country firm to achieve better pricing. EU 27 banks could possibly be partially, if not fully, priced out of the euro IRS market. At the very least, it could create an unlevel playing field.

Bid/ask spreads

A smaller, fragmented and closed market will attract fewer market-makers, leading to less competition, less liquidity and potentially higher volatility, especially during the migration period. All these factors will increase cost for client end users of such a CCP. Should a volatile basis emerge, dealers would also have to take this volatility into consideration when pricing transactions.

Fees

The onshore CCP that will clear the transactions subject to the location policy will clear fewer IRS than the offshore CCP. Large parts of the cost of a CCP are fixed: designing a comprehensive risk management framework is largely independent of clearing volumes. It is therefore expected that clearing fees will increase for onshore clearing members and clients, as the fixed cost of running a CCP must be paid for by fewer transactions.

Margin and capital

ISDA surveyed 12 large international clearing member banks on a best-efforts basis to estimate the potential margin and capital impact resulting from a euro swap location policy. The result of the analysis was an overall IM increase in the range of 16% to 24% for clearing member house accounts, depending on the proportion of swaps falling under the policy. Some clearing members have reported more significant impacts – with increases of up to 50%.

SUPERVISORY COOPERATION

ISDA agrees with the starting point for the European Commission's review of third-country central counterparty (CCP) supervision – the requirement for European Union (EU) supervisors to have access as necessary to CCPs that provide clearing services to firms in the EU.

With the backdrop of Brexit and the importance of UK CCPs to the financial system of the EU, ISDA also supports the requirement for a supervisory model that addresses the concerns associated with large third-country CCPs that are systemically important to the EU financial markets and economies.

ISDA believes the clear aim of the regulation should be to develop a consistent, global, shared supervision model that allows efficient functioning of the markets.

While ISDA members understand that the proposed regulation foresees a location policy only as a last resort measure, ISDA is unable to support a location policy and the forced fragmentation of markets. Even the possibility of a location policy poses uncertainty. The far superior option is supervisory cooperation, as already practiced between the US Commodity Futures Trading Commission and the Bank of England in the supervision of SwapClear.

The potential margin impact is dependent on the risk composition of swap portfolios – in particular, the extent to which a firm currently benefits from cross-margining (ie, short rate positions in one currency versus long rate positions in different currencies). These positions can change materially over time, and can differ significantly between banks.

The ISDA survey also points to a 65% increase in common equity Tier 1 capital requirements associated with increased risk-weighted assets (RWAs) and leverage requirements. On the RWA side, the impact is attributed to higher trade exposures, margin requirements and default fund contributions resulting from the loss of multilateral netting benefits by splitting cleared euro swap portfolios.

The key driver of the increased leverage ratio exposure is the loss of ability to compress cleared trades. The analysis is based on current market structures, and while some impacts could potentially be mitigated by factoring in other netting efficiencies that can be gained at other CCPs, it is unclear whether large efficiencies can be achieved when euro IRS are cross-margined with other products such as repos or futures. IQ

The full version of the response is available at: http://isda.link/emirresponse
Webinar: Brexit – An Update and Implications for Derivatives, November 2017: http://isda.link/brexit
Whitepaper: Brexit – CCP Location and Legal Uncertainty, August 2017: http://isda.link/brexitpaper

Overseeing the Regulator

*The House Committee on Agriculture plays a central role in formulating financial legislation and overseeing the Commodity Futures Trading Commission. **Mike Conaway**, chair of the committee, talks about his work to improve the cost-benefit analysis of new rules, the importance of ensuring end users can efficiently access derivatives, and his concerns about the impact of capital rules on market liquidity*

IQ: The House Committee on Agriculture has a broad jurisdiction that touches on all facets of agriculture policy. The derivatives markets only make up a small piece of this jurisdiction. What are the challenges and benefits posed by the diverse set of issues the committee has responsibility for addressing?

Mike Conaway (MC): The committee's broad jurisdiction means that members must be jacks-of-all-trades. At times, the breadth of topics can be challenging, as members are asked to be fluent on topics as varied as derivatives, farm support programmes, immigration, international trade and genetic engineering. But the reward is a committee full of members who have a big picture, practical perspective on many of the issues that confront Congress today.

For example, in a recent hearing on rural infrastructure, we talked about the importance of repairing locks and dams to the movement of goods. As our witness elaborated, grain is priced on the river, based on the cost to move it to a port of export. Ultimately, the river price is what farmers get paid, even though it's out of their control.

That basis risk is one of the risks farmers try to manage as they hedge their production in the futures market. Understanding the linkage between transportation costs and farm prices is fundamental to understanding the value of risk management tools. It's that ability to connect two disparate policy areas like rural infrastructure and futures markets that makes the Agriculture Committee such an interesting place.

IQ: What are the current priorities for the Agriculture Committee relating to the derivatives markets?

MC: My top priority is to get the Commodity Futures Trading Commission (CFTC) reauthorised. The CFTC's authority to spend money lapsed at the end of 2013, and authorising the spending of an agency is the absolute bare minimum we can do in our oversight duties – so we need to get that done.

> "The essential purpose of derivatives markets is to facilitate the transfer of risks, so end users of derivatives products can control their costs and focus on what they do best – running their business"

Beyond that, the committee will work to support healthy derivatives markets that work for all market participants. I'm a Republican, so I don't view deregulation as sceptically as my Democratic colleagues, but I don't have blind faith in it either.

I believe reducing regulations can help to create healthy markets, especially where regulations impose obligations on market participants that are costly, duplicative or inconsistent with market conventions. But being pro-market doesn't mean being anti-rule. It means having clear rules that market participants understand and regulators can capably enforce. In derivatives markets especially, most market participants are sophisticated institutions with natural incentives to compete for prices. Good laws and regulation should expect and build on this natural incentive to competitiveness, rather than try and restrain it.

IQ: Early this year, the Commodity Exchange Act (CEA) reauthorisation legislation passed the House with bipartisan support. This is the third consecutive Congress that the committee has shepherded CEA reauthorisation legislation through the House. What are the sticking points in the Senate?

MC: The Senate still has a number of nominees to work through, then they also have a farm bill to prepare this Congress. They have limited time and an expansive to-do list.

But perhaps a more important sticking point is a lack of consensus among Senate Democrats that there are any problems with Title VII. The House bill contains numerous provisions providing relief to end users of commodity markets to ensure they can still manage their risks in a cost-effective way. To the extent that Democratic senators don't believe end users are being harmed by the law, they simply will not have an incentive to alter the status quo.

IQ: Realistically, what would have to happen for this bill to make it to the President's desk? Do you have a strategy for trying to move some pieces of your bill on other legislative vehicles?

MC: We'll continue trying to make the case for our broad package, but we'll move what we can, where we can. In July, House appropriators included two important provisions in their Agriculture appropriations package – Mr. Lucas's amendment on transactions between affiliates and the language I've long proposed to improve cost-benefit analysis at the CFTC.

Mr. Lucas's amendment is important to draw a clear regulatory distinction between arms-length transactions that transfer risks between market participants for a price and internal risk management transactions that move risk within a single entity for management, accounting or other internal purposes.

My cost-benefit language would impose new analytical requirements on the CFTC to examine and try to quantify the costs and benefits of a proposed rule. The CFTC would be required to examine the impact of its proposed regulation both on the public and on the CFTC itself.

Enacting these two provisions will be an important step toward implementing policies that will provide relief to end users and other market participants, as well as make the CFTC a stronger, more capable regulator.

IQ: Which parts of the CEA reauthorisation legislation would you highlight as being most important for improving the regulatory framework?

MC: I would argue that the cost-benefit language I've been working on is probably the single most important regulatory improvement we can make at the CFTC. So many of the problems we see with the swaps rules stem from a commission that rushed proposals out the door without clearly thinking through their consequences.

Take, for example, the non-cleared margin rules. The CFTC's inspector general issued a report in June looking at the cost-benefit analysis that went into that rule. They said, and I'll quote here: "The CFTC's cost-benefit consideration lacks a clear discussion of the market failure justifying regulatory intervention. It lightly refers to

"Capital and margin requirements reduce systemic risk, but at the price of also reducing the amount of economic activity a bank can undertake in our economy – including risk-reducing derivatives trades with end users"

the 2007-2008 financial crisis and asserts without scrutiny that the margin rule will reduce systemic risk."

The report goes on to list a number of factors the CFTC did not address, including the pro-cyclicality of margin, the potential impact that a homogeneous approach to margin may have on systemic risk, and the potential for the rule to alter market participant behaviour in unexpected ways. These are big, important questions that our regulators need to be grappling with.

I am heartened by CFTC chairman Giancarlo's commitment to improve the regulatory analysis coming out of the commission. I am strongly encouraged by his recent roadmap to improve swap data reporting and his desire to expand the Office of the Chief Economist. He's said he wants the CFTC to be a world-class regulator, and he understands the importance of data and analysis to that goal. To be a world-class regulator, you have be able to ask and answer the world-class questions.

IQ: The Agriculture Committee has been focused for years on the impact of the Dodd-Frank Act on users of derivative products. Can you describe the key proposals the committee has drafted to alleviate the burden on end users? Does more need to be done?

MC: The essential purpose of derivatives markets is to facilitate the transfer of risks, so end users of derivatives products can control their costs and focus on what they do best – running their business. Because those end users are the foundation of derivatives markets, the committee is focused on improving the markets for them. In the Commodity End-User Relief Act, the committee proposed changing or codifying a number of rules from the CFTC that have affected markets and harmed end users.

One is the swap dealer de minimis level. Setting the de minimis level at $8 billion in notional activity was not the logical result of a data-driven analysis of the market – it was a political choice. In fact, a recent CFTC report on the de minimis threshold suggests we could raise the de minimis threshold as high as $100 billion and still capture 97% of interest rate swap and credit default swap transactions, while substantially relieving the regulatory burden on the industry. Despite this, the de minimis threshold will plummet to $3 billion unless something is done by the CFTC.

This is incredibly significant to a number of market participants that serve end users in energy and agricultural markets. If the de minimis threshold falls to $3 billion, then these end users will face challenges managing their risks, because they will lose hedging counterparties. This is an outcome that few want but which we're heading toward. Our language would freeze the de minimis level at $8 billion until the CFTC changes it through a rule, providing certainty to end users and their counterparties until a detailed analysis can be completed.

We also included language to protect end users from the potential impact of position limits by protecting traditional hedging techniques, including anticipatory hedging, and ensuring those who use all forms of bona fide hedging are not treated like speculators under a position limits regime.

Among other provisions, the legislation also provides relief to end users and their counterparties by: protecting certain end users from being considered financial entities; providing temporary relief from public reporting for users of illiquid swaps so they cannot be identified; eliminating registration burdens on a number of charitable organisations and others that report to the Securities and Exchange Commission (SEC); and ensuring that swap dealers not affiliated with banks are not forced to bear punitive, uncompetitive capital costs.

These provisions, though, are not the last issues that end users will face. End users rely on an exception to the clearing requirement that is overly complex. The clearing and margin exemptions are slightly different, leading to additional confusion. Capital requirements are reducing the capacity of the market to service smaller hedgers. And there are a host of cross-border challenges that could impact end users as well.

IQ: The swaps market is unique in that regulatory authority is split between the CFTC and SEC, with the federal banking agencies retaining a large role on capital and margin requirements. This bifurcated regulatory regime can create both substantive and logistic compliance issues. Has the committee considered ways to alleviate this burden?

MC: Although the regulation of other financial products is sometimes bifurcated between regulators, the global swaps market is a far more complex market than what has been shared in the past. Title VII added to this complexity by including virtually every federal financial regulator in the rule-writing process.

In the non-cleared margin rule, there are seven regulators required to cooperate in producing the final set of rules: the CFTC, SEC, the Office of the Comptroller of the Currency, the Federal Deposit Insurance Corporation, the Federal Reserve, the Farm Credit Administration and the Federal Housing Finance Agency. That means seven agencies need to agree and approve any changes to the current rules. This became a problem in September 2016 and March 2017, when the global margin implementation schedule slipped and we saw a challenge coordinating our response.

I am interested in ways in which we can reduce the complexity of Title VII and the coordination challenges the law created. I think we could substantially improve the law simply by reducing the number of regulators charged with administering its various parts.

IQ: CFTC chairman Giancarlo has warned that higher capital and leverage ratio requirements have caused bank dealers to step away from providing liquidity to the market. Is a reduction in derivatives market liquidity a concern from your perspective?

MC: It is a concern for me, and has been on the committee's radar for some time. As I see it, there are a number of related issues to consider when thinking about how to improve liquidity in markets.

First, capital and margin requirements reduce systemic risk, but at the price of also reducing the amount of economic activity a bank can undertake in our economy – including risk-reducing derivatives trades with end users. Spreading risk among people who can bare it, which is what derivatives do, is healthy for our economy. While it is important to protect our financial system, we must balance that against the needs of end users to access cost-effective risk mitigation resources.

Second, I believe the authors of Dodd-Frank expected new sources of liquidity would enter the market to replace the diminished activity of banks. Not only is that not happening, but the market is largely dominated by the same institutions that were there before the crisis. It appears those institutions that could provide new liquidity are limiting their participation to avoid unduly burdensome regulations.

Finally, reductions in market liquidity might also be made worse by a lack of harmonisation among global financial regulators. International conflict is leading to shallow, fractured liquidity pools serving regional markets. This is a step backward for healthy markets. It will lead to more brittle markets and reduce the diversification of risk. It will also make it more expensive for end users to hedge risks that are uncommon within their own region.

IQ: How important is it to conduct a review to assess the aggregate impact of the entire regulatory framework and its effect on specific business lines and end users?

MC: This is perhaps the most important activity our regulators can undertake. The Dodd-Frank Act was an enormous undertaking. Title VII directed the CFTC alone to complete over 60 rule-makings. Regulators must be willing from time to time to step back and see the big picture. On swaps, in particular, regulators need to examine the totality of this new regulatory regime. It isn't enough for the CFTC, the SEC and the banking regulators to individually assess their rules – they must also look at the whole set of rules that impact these markets comprehensively. Similarly, regulators must also examine where their rules are duplicative or where they impose incompatible obligations.

One example of this is the supplementary leverage ratio. This doesn't just have an impact on liquidity – it also affects end users by diminishing their market access. We're seeing futures commission merchants cull their clearing business, losing their smaller, lower-volume clients. Often, these clients are the end users that have limited alternatives. We're making it harder for the smallest, least adaptable businesses to manage their risks. End users didn't cause the crisis, but they are bearing a heavy price through our response.

The leverage ratio is intended to reduce systemic risk, but it deters clearing, which was also intended to reduce systemic risk. It both furthers and hinders the goals of the law. We must figure out how to square that circle.

IQ: One of the foundations of the Dodd-Frank Act was to move the market toward central counterparty clearing. This effort has been largely successful, with 77% of the interest rate derivatives market now being cleared. However, the concentration of this risk in a few key clearing houses has been raised as a concern. What work is the committee doing to assess and potentially mitigate this risk?

MC: In July, the House Agriculture Committee held a hearing on this subject. One of the important ideas presented was that clearing doesn't eliminate risk – it transforms risk. Clearing exchanges counterparty risk for liquidity risk, because it protects participants by demanding timely, frequent and certain cash payments. It is these payments that could pose a challenge during another financial crisis, when cash might once again be horded by institutions uncertain about their counterparties.

In response to these concerns, witnesses testified about the importance of the Fed's ability to offer account services to clearing houses so their default funds are safe, and to provide limited liquidity services so US Treasury bonds can be converted to cash in the event of a liquidity crisis.

What's clear following our hearing is that mandatory clearing has changed the topography of swaps markets in fundamental ways. Regulators must continue examining the interconnectedness of market participants and institutions to better understand how risk propagates through the system. Clearing is an important tool to protect market participants, but cannot eliminate risk in our derivatives markets.

If we wish to keep mandatory central clearing as a regulatory objective, then we must consider the consequences in the context of another crisis. Much work has been done at the CFTC through the Market Risk Advisory Council and other international bodies. The committee will continue to review this work to ensure that the law does not inadvertently create new risks we haven't considered. IQ

Fixing Common Problems

ISDA has published the first version of its Common Domain Model, which sets out the concepts required to achieve a single digital representation of trade events and actions. What does this mean for the industry, and what are the next steps?

If you were to give anyone working in derivatives a blank sheet of paper and ask them to sketch out an optimal market structure, it is extremely unlikely they would come up with anything that even remotely resembles how it functions today.

For good reason, too. The derivatives market has been built piece by piece over time as new markets, products and functions have come on line. Asset classes have emerged almost in a bubble, often with their own systems and conventions. Each firm has also built its capabilities in stages, assembling its own unique catalogue of data and definitions along the way.

This disparate, often duplicative infrastructure is complicated enough, but recent events have stretched capacity to the limit. The layering of additional processes – clearing, electronic trading, reporting, margining – to meet regulatory requirements has ramped up the demands on an already overburdened system.

The result is an infrastructure that is disjointed, complex and costly to maintain. The lack of commonality in how events and actions are described, defined and documented has led to high levels of manual intervention, and constant reconciliation is required after each step in the trade lifecycle to eliminate inconsistencies between counterparties.

This comes at a time when banks are facing increased capital requirements, high costs and pressure on profitability. "Banks are facing resource constraints, but the existing manually intensive infrastructure comes with significant overheads. Firms are therefore looking for ways to reduce that spend," says Clive Ansell, head of the market infrastructure and technology group at ISDA.

New technologies

New technologies like distributed ledger, the cloud and smart contracts offer the potential to fundamentally reshape this derivatives infrastructure by reducing operational risk, streamlining increasingly cumbersome and time-consuming processes and cutting costs. Instead of a patchwork of fragmented, manually intensive processes, these technologies offer the potential for greater coherence and automation. Rather than having to constantly reconcile trades to fix mismatches in how each firm records trade lifecycle events, actions could be applied to a single, central record that each counterparty would have access to.

"Technologies like distributed ledger allow digital representations of data to be shared and synchronised securely across multiple institutions. This would result in a single, authoritative record of a trade, drastically reducing the need for constant reconciliation and human intervention. Smart contracts could also be used to automatically execute certain lifecycle events, which would result in the central record of the trade being updated," explains Ansell.

In response, a number of banks have invested in technology initiatives, and various smart contract and distributed ledger proof of concepts have been launched.

> "Banks are facing resource constraints, but the existing manually intensive infrastructure comes with significant overheads"
>
> **Clive Ansell, ISDA**

The problem is how to ensure these new technologies are able to seamlessly interact and interoperate. Automating a single business or function isn't enough. Unilateral development of technologies – each with their own definitions and representations – will result in the same disjointed and fragmented market infrastructure that is currently in place, with a surface sheen of modernisation.

ISDA CDM

In order to realise the full potential of these technologies, and to ensure they can work seamlessly across firms and platforms, a common set of data and process standards needs to be developed.

"That's where the ISDA Common Domain Model (CDM) fits in. It aims to establish a common set of representations that everyone will be able to access and deploy. ISDA is well placed to lead this standardisation effort, leveraging our track record in developing standard legal documentation and product definitions stretching back to the publication of the ISDA Master Agreement more than 30 years ago," says Ansell.

ISDA published a conceptual version of the CDM on October 17. Version 1.0 introduces the concepts required to create a standard blueprint for events and actions that occur throughout the lifecycle of a trade. This is intended to be more than a data or product standard that focuses on one specific area or function. It will represent the very fabric of how derivatives are traded and managed through their entire lifespan, and how each step in the process is represented.

As well as opening the door to important new technologies, the ISDA CDM is expected to have some more immediate benefits. It will improve data integrity and reduce the need for reconciliation, while establishing a common set of representations that will also help with regulatory compliance.

"When writing rules for derivatives, regulators could in theory point to a specific data point or process they would like to be adapted, or about which they would like more information, therefore cutting down on the need for each firm to interpret the rules and apply them to their business," says Ian Sloyan, a director in the data and reporting group at ISDA. "In effect, the regulators could write their →

What Does the ISDA CDM Mean for the Industry?

"We believe emerging technologies such as distributed ledgers have the potential to fundamentally alter the way we process derivatives. The industry has made significant strides in demonstrating the benefits that these technologies offer from the shared persistence of a golden source of trade data. However, fragmentation in the current ecosystem prevents full realisation of the benefits of a truly transformational reengineering of existing processes. ISDA can play a crucial role in mitigating this risk through the definition of a standard that underpins an industry wide adoption strategy, developing process standardisation on top of existing data and legal standards such as FpML and the ISDA Master Agreements. The Common Domain Model (CDM) will achieve this."

Keith Bailey, managing director, market structure, Barclays

"We commend and support ISDA's initiative to collaborate with the industry to create standards for derivatives data models and business processes. Our current work to re-platform DTCC's Trade Information Warehouse for CDS transactions on distributed ledger technology confirms that realising the full potential of this exciting technology will depend on standards as much as the technology itself."

Chris Childs, chief executive officer, DTCC Deriv/SERV

"CME Group supports ISDA's CDM, as we believe standards like this will be the key enabler to develop next-generation, post-trade derivatives infrastructure in our industry. Today, clients experience inefficiencies ranging from delays in reconciliation of critical data across multiple parties, repeated instances of the same record within and across market participants, and a continual need to fix breaks found through reconciliation using manual processes. Greater standardisation of data and processing will help exchanges, clearing houses, clients and the market as a whole to process data more effectively."

Sunil Cutinho, president, CME Clearing

"The CDM has the potential to bring huge benefits to banks and their end users. Today, there are many manual links in the chain between clients, banks, vendors and post-trade processors, leading to issues that an automated trade lifecycle and straight-through processing could resolve. If we can achieve a process where we capture all that is required for risk management, settlements, lifecycle events and regulatory reporting, then we all have one unified standard taxonomy. This will also allow a universe of vendors to create solutions that can be widely utilised and really improve the efficiency for banks and our clients."

Dixit Joshi, group treasurer, Deutsche Bank

"ISDA's work on smart contracts, distributed ledger and its CDM brings us to a crucial intersection between legal and technological innovation. We have all benefited from the standardised documentation architecture developed by ISDA over the past 30 years. The developments now being championed by ISDA are a natural next step; aligning available contractual structures with the highly sophisticated markets that they serve. As lawyers, we constantly embrace and manage legal and regulatory change. Why should we take a different approach to technology that will benefit our clients and maintain our relevance? As derivatives lawyers, we are standing at the threshold of an innovation as transformational as ISDA's original 1987 Master Agreement. To remain relevant, we must recognise the future and embrace it. I strongly believe that ISDA has, in initiating this project, shown us our future and offered to guide us to it. We need to take up the challenge and work together, with ISDA, to be part of the future."

Judith Lawless, partner, McCann FitzGerald

"The derivatives market is highly complex and nuanced, and reliance on legacy systems that fail to interoperate creates an additional layer of unnecessary complication for participants. We fully support ISDA's move to introduce its CDM, which provides common data and processing standards, while setting the stage for DLT platforms such as Corda to automate the derivatives workflow and improve efficiencies across the industry."

David E. Rutter, chief executive officer, R3

"The complexity created by independently conceived trade processing flows has created widely recognised operational overheads in financial markets. A unified derivative modelling paradigm – particularly if paired with blockchain technology – can facilitate much-needed unification across capital markets infrastructure. ISDA's CDM lays the critical foundation for derivatives event processing standards. We are now at an important juncture where the CDM can be taken from a specification to a realised implementation. Axoni is excited to leverage ISDA's model as the framework for blockchain smart contracts."

Greg Schvey, chief executive officer, Axoni

→ rules in the same terms the industry uses in its day-to-day business. This will help ensure accuracy and consistency in regulatory reporting."

Concepts

In developing the CDM, ISDA will use existing tools, and build on prevailing standards and platforms as much as possible, rather than starting from scratch. In particular, Financial products Markup Language (FpML) – which is already widely used in the derivatives market – can be used as a building block for the product data elements of the model.

The conceptual paper itself introduces ideas for CDM design, and sets out an initial minimum set of dependent and independent events – for example, amend, full assignment, tear-up/portfolio compression – which are then defined in terms of 'before' and 'after' states. The paper

FURTHER INFORMATION

Market participants can get involved in the ISDA Common Domain Model (CDM) initiative in a number of ways. Firms are encouraged to provide feedback on the conceptual CDM paper to ISDA's market infrastructure and technology team (**MarketInfrastructureandTechnology@isda.org**). Members can also join the ISDA CDM design working group, or the working group on the legal aspects of distributed ledger and smart contracts. Both of these already encompass a broad spectrum of participants, and will be vital in guiding the final consensus on shape and pace of infrastructure reform.

- October 2017 ISDA Webinar: Introducing the ISDA Common Domain Model: https://services.choruscall.com/links/isda171019.html
- October 2017: ISDA Common Domain Model Version 1.0 Design Definition Document: http://isda.link/cdmdesign
- September 2017 ISDA Webinar: The Foundations of an Efficient Market Infrastructure: https://78449.choruscall.com/dataconf/productusers/isda/mediaframe/21013/indexr.html
- August 2017 Whitepaper: *Smart Contracts and Distributed Ledger – A Legal Perspective*: http://isda.link/smartcontracts
- September 2016 Whitepaper: *The Future of Derivatives Processing and Market Infrastructure*: http://isda.link/marketinfrastructurepaper

also presents products as a hierarchical collection of primitive components. For example, a very basic interest rate swap is modelled as a collection of two coupons or interest calculations, one fixed and one floating.

As a next step, ISDA published a request for quotations (RFQ) for the development of a digital version of the CDM on October 31. Under the terms of the RFQ, the chosen vendor will assist ISDA in conducting an analysis of the product data elements found in FpML, and producing the framework for an executable digital representation of the CDM, as well as the first iteration of it – ISDA CDM version 2.0. The initial focus will be on the interest rates and credit asset classes. The project is expected to last three months.

Throughout the process, ISDA will seek input on the model from all industry stakeholders – sell side, buy side, infrastructure providers, technology vendors, lawyers and regulators.

"ISDA recognises that such a major project must be reflective of the wider market if it is to succeed. It is important that the thinking behind the model, and its basic construction, is fully thrashed out – what works, what doesn't work, what alternatives can be pursued," says Ansell.

Longer term

Over the longer term, ISDA will continue to engage with the industry on proof of concepts to demonstrate the application of the CDM, and will look to extend the model to other products and functional activities.

None of this can be done in isolation. In parallel, ISDA has established a working group dedicated to looking at the legal and governance issues relating to smart contracts and distributed ledger. This includes an update of the ISDA definitions to support greater automation (see box, *Legal Standards and Smart Contracts*).

This is a long-term project, and developing the CDM and working on the legal issues related to smart contracts is just part of it. In order to be effective, the standard representations within the ISDA CDM will need to be widely deployed. That means firms right across the financial spectrum – from banks to technology vendors – will need to make changes to their systems and structures. That's not necessarily a straightforward proposition – although many industry participants recognise the importance of the ISDA CDM initiative (see box, *What Does the ISDA CDM Mean for the Industry?*).

From ISDA's perspective, this falls squarely into its mission statement of fostering safe and efficient markets.

"The current system is too complex, and it's not scalable. We're on the cusp of a technology revolution, and we need to make sure we can take full advantage of that. We have to ensure the derivatives market is fit for purpose for the 21st century," says Ansell.

LEGAL STANDARDS AND SMART CONTRACTS

ISDA and Linklaters published a whitepaper in August that outlines a possible near-term application of a smart contract for derivatives, and highlights the importance of a more formal representation of certain legal clauses and actions within the ISDA definitions to enable them to be represented and executed via smart contract code.

Preparations are under way to update and future-proof ISDA documentation, starting with the 2006 definitions for interest rate and currency derivatives. ISDA has also launched an industry legal working group to focus specifically on smart contracts and distributed ledger.

"A lot of work has been done by ISDA and its members to unlock value in the derivatives market by developing the operational building blocks for smart contracts – and the common data and process hierarchy work led by ISDA is critical to that. This work complements our development of smart-contract and broader governance structures utilising the existing and proven legal foundation that ISDA has developed over the past 30 years. The paper explores where a smart contract can be applied to automate the execution of certain specified actions, and also where a broader governance framework for non-operational legal agreements can be applied to future-proof existing product definitions and legal documents," says Scott O'Malia, ISDA's chief executive.

"The ISDA Master Agreement is possibly the most successful legal contract of all time, but the advent of smart contracts offers the possibility for it to become even more powerful. This paper is the first step in considering how that can come about," says Paul Lewis, derivatives and structured products partner at Linklaters.

Key points in the paper include:

- There is a difference between smart contract code, which refers to code that is designed to execute certain tasks, and a smart legal contract, which refers to elements of a legal contract being represented and executed by software. Certain operational clauses within legal contracts lend themselves to being automated. Other non-operational clauses – for instance, the governing law of a contract – are less susceptible to being expressed in machine-readable code. Some legal clauses are subjective or require interpretation, which also creates challenges.
- A possible near-term application of a smart contract is for the legal contract to remain in natural legal language, but for certain actions to be automated via a smart contract.
- This would require those actions – for instance, payments and deliveries – to be represented in a more formal, standard way within the ISDA definitions, enabling them to be read by machines.
- Transaction data could be held on a permissioned, private distributed ledger that would be available to regulators. This would ensure there is a single, shared representation of each trade.
- Industry wide standards are required to ensure smart contracts are interoperable across firms and platforms. ISDA is working to develop these standards. The ISDA Smart Contracts/DLT Legal Working Group will be discussing legal, documentation and regulatory issues on smart contracts going forward.

A Clear Priority

With volumes of cleared derivatives continuing to increase, it's become crucial that CCPs are sufficiently robust, and that predictable and unambiguous recovery and resolution mechanisms are put in place. ISDA has made some recommendations for a comprehensive CCP recovery and resolution framework

Clearing has become a critical part of the derivatives landscape. Market participants have embraced the operational and cost efficiencies that clearing offers, and are now clearing more than what is required by mandates.

The Bank for International Settlements (BIS) estimates that 77% of interest rate derivatives and 51% of credit default swaps notional outstanding was cleared through central counterparties (CCPs) by the end of June 2017.

Given the systemic importance of CCPs, regulators and policy-makers should continue working together to finalise unambiguous and predictable CCP recovery and resolution strategies. More politically driven topics – for instance, the debate over CCP location in the European Union – should not distract from this important work.

Progress so far

The Committee on Payments and Market Infrastructures (CPMI), the International Organization of Securities Commissions (IOSCO) and the Financial Stability Board (FSB) have led global efforts to establish effective recovery and resolution mechanisms for CCPs. CPMI-IOSCO and the FSB have published a variety of principles and recommendations, and work is under way to implement this guidance in individual jurisdictions and at CCPs.

ISDA believes this implementation effort should continue. While the largest banks and their affiliates (including clearing members) have become much more resilient since the financial crisis by increasing capital by an estimated $1.5 trillion, which reduces the likelihood of distress at a CCP, full implementation of the FSB and CPMI-IOSCO guidance on CCP resilience, recovery and resolution is critical to enhance the stability and sustainability of the cleared derivatives market, as well as the overall financial system.

A successful CCP recovery or resolution must both allocate losses and rebalance the CCP's book. CCPs function in the market as the buyer to every seller and the seller to every buyer, and therefore cannot return to viability without a balanced book. The tools used to allocate losses and rebalance a CCP's book are not interchangeable. Loss-allocation tools source additional resources but cannot rebalance a CCP's book, while rebalancing (or position-allocation) tools return the CCP to a matched book but should not source any additional resources to cover losses.

Maximum transparency

It is imperative that clearing participants have sufficient information about the expected recovery and resolution strategies for a CCP so they can measure, manage and control their potential exposure. Clearing participants must understand the triggers for resolution and any separate level of regulatory intervention and/or coordination between regulators and resolution authorities (including whether the triggers are discretionary or automatic), as well as the resources available to the CCP in recovery and any additional resources available to the resolution authority.

Firms also need to know the tools the CCP would use in recovery, and any extra tools a resolution authority would use in resolution. They should understand whether there is any restriction on the use of those

Given the systemic importance of CCPs, regulators and policy-makers should continue working together to finalise unambiguous and predictable CCP recovery and resolution strategies

It is imperative that clearing participants have sufficient information about the expected recovery and resolution strategies for a CCP

tools in recovery or resolution, and be aware of situations where a resolution authority intends to deviate from the tools in the CCP's rule book that the CCP did not use prior to resolution.

A resolution regime for CCPs should indicate a time at which resolution could commence, but should allow flexibility for recovery to continue beyond that time. Once a CCP's pre-funded resources have been exhausted, resolution authorities should, when determining whether to commence resolution, be required to consider factors generally related to the probability of a successful recovery and the impact of a recovery on financial stability.

Examples of factors to be considered include whether the CCP's default management process is functioning and proceeding in a timely manner, the quantum of losses suffered already, whether there is any indication of an erosion of confidence in the CCP and its default management process, and whether stress at the CCP is affecting orderly trading in the market.

These considerations, among others, would ensure resolution authorities have the flexibility to intervene when they deem necessary, while allowing effective CCP recoveries to continue. They also provide clearing participants and the broader market with adequate transparency and predictability over when resolution would commence.

Loss allocation

As part of their default waterfall, CCPs typically have the ability to impose assessments (also known as cash calls) on clearing members. Assessment powers in the CCP's rule book should apply across recovery and resolution, without differentiation or duplication. Based on CCP rule books, clearing members must at all times be able to calculate the maximum required contribution under any assessments within a 'cooling-off' period (the period of time after a clearing member default that results in a CCP calling for assessments before the cap on these assessments 'resets' and the CCP can call for additional assessments, up to the same cap). Multiple assessments could be permitted, provided the aggregate amount of these assessments does not exceed the cap.

$1.5 trillion

The increase in capital by the largest banks since the financial crisis

Introducing additional contingent exposure in statutory resolution regimes would be hugely problematic from a risk-management perspective because clearing participants would not be able to accurately measure, manage and control their exposures to the CCP. What's more, additional assessments in statutory resolution regimes would impose liquidity burdens on clearing members during a time of market stress and would therefore be procyclical and potentially destabilising to the broader financial market.

Variation margin gains haircutting (VMGH) is a comprehensive loss-allocation tool at the very end of the CCP's default waterfall that would address CCP losses without requiring any use of taxpayer money[1]. Variation margin owed by a CCP during each settlement cycle equals variation margin owed to the CCP. Therefore, the amount of a CCP's losses from non-payment of variation margin by a defaulting clearing member(s) would never exceed the amount of variation margin gains that the CCP could haircut.

In order to ensure VMGH is an effective and comprehensive loss-allocation tool that also minimises losses to clearing participants, VMGH must be used over a minimal time period (not indefinitely), be used only if a finite quantum of losses has been established (it cannot be used to fund a CCP that is not also rebalancing its book and returning to viability), apply to all clearing participants, and entitle clearing participants that have incurred losses as a result of its use to claims.

Initial margin haircutting (IMH) is very different. In no event should a CCP in recovery, or a resolution authority in resolution, be able to apply IMH to allocate losses. IMH would have knock-on →

[1] Some ISDA members take different views on VMGH (primarily with respect to whether VMGH should apply in recovery or resolution or only in resolution)

In no event should a CCP in recovery, or a resolution authority in resolution, be able to apply forced allocation of positions to non-defaulting clearing members

→ effects in an already distressed market and could disincentivise participation in the CCP's default management process. That is because clearing members may not want to bid on positions that would increase their initial margin requirements if this margin could then be subject to a haircut.

Rebalancing the book

As the buyer to every seller and the seller to every buyer, CCPs must maintain a balanced (flat) book. In order for the CCP to return to viability, either non-defaulting clearing members must take on the positions of the defaulted clearing member(s) through an auction or similar voluntary mechanism, or the CCP must 'tear up' offsetting positions.

Partial tear-ups (PTUs) are a comprehensive last-resort tool to rebalance a CCP's book if an auction or similar mechanism fails. When exercising PTUs, a CCP (or a resolution authority in resolution) terminates pro rata contracts, offsetting those contracts of the defaulting clearing member(s) that could not be auctioned. PTUs evenly distribute risk and exposure across affected clearing participants. They do not require any clearing participants to clear new positions and/or products they are not able to risk manage.

In order to ensure that PTUs return a CCP to a balanced book while minimising the burdens on clearing participants that have positions torn up, PTUs must apply to the smallest portion of illiquid contracts practicable, be priced as close as possible to the fair market value of the torn-up contracts in order to minimise losses to clearing participants and ensure PTUs do not violate hedge accounting standards, and entitle clearing participants suffering losses as a result of their use to claims.

In no event should a CCP in recovery, or a resolution authority in resolution, be able to apply forced allocation of positions to non-defaulting clearing members. Unlike PTUs, whereby clearing participants 'lose' their existing positions, forced allocation would require clearing members to take on positions they may not be suited to risk manage in extreme market conditions (positions in products they intentionally do not transact). This could have a negative impact on financial stability.

> While progress has been made in developing principles for CCP resilience, recovery and resolution, further work is needed to fully implement these recommendations

Claims

Clearing participants should retain claims for the amount of their total losses resulting from the use of any loss-allocation tools beyond the CCP's funded default-fund contributions and clearing member assessments up to the applicable cap, and/or any involuntary position allocation or tear-up tools.

These tools were originally designed to help a CCP's recovery by preventing insolvency. As implemented, however, they benefit CCP equity by preventing the CCP from defaulting to clearing participants. This prevents clearing participants from having any remedies or claims against a CCP in recovery or resolution. Conversely, counterparties of non-CCP financial institutions that fail to make payments would have recourse against the financial institution both prior to and in a resolution scenario.

In order to ensure that clearing participants are not effectively subordinated to CCP equity in either recovery or resolution without creating any disincentives for clearing participants to contribute to the CCP's default management process, claims should be senior to existing CCP equity in the creditor hierarchy (both in an insolvency and in a resolution), not be extinguishable prior to satisfaction or conversion into an instrument of equivalent value, and entitle claimholders to future CCP accumulated earnings or returns in excess of regulatory capital requirements (ie, future CCP profits or something of economically equivalent value) until they are paid in full. During that time, strict limitations should apply to any dividend payments by both the CCP and its parent, and dividends to any pre-existing equity should be subject to strict limitations[2].

Given that claims would only be paid if

[2] ISDA's CCP members take different views on claims. In particular, some CCPs believe that any arrangements regarding future profits and dividends should be subject to commercial agreements between the CCP and its clearing participants

and when the CCP returns to profitability, this not only creates additional incentives for clearing participants to contribute to the CCP's default management process, but also encourages clearing participants to continue clearing at the CCP. Continued participation in the CCP would, in turn, preserve the CCP's value and help attract new investors.

Non-default losses

The guiding principles for allocating non-default losses should be who manages the risk and who benefits from related gains. To ensure they are properly incentivised to exercise prudent risk management, CCPs and their shareholders must bear at least some or almost all non-default losses, and should be responsible for non-default losses that are exclusively within their control. That means CCPs should bear all non-default losses related to operational risks, non-default liquidity risks, general business risks, legal risks, cyber risks and fraud (or other internal 'bad acts'). In some instances, clearing participants should bear at least a portion of non-default losses related to custodial risks, settlement bank risks and investment risks.

For non-default losses that a CCP bears itself, the CCP's parent company and/or equity holders should bear the remaining losses in the event CCP capital or other dedicated funding is insufficient[3]. Consistent with this, CCP rule books should unambiguously indicate that default waterfalls (including CCP skin in the game) do not apply to non-default losses, as these resources are sized to cover default losses exclusively.

Any mutualisation of non-default losses born by clearing participants should be outside of the CCP's default waterfall, equitable and considered separately for each type of non-default loss. For example, it would be necessary to mutualise non-default losses across clearing members using the same defaulted custodian or settlement bank, or across clearing participants that have assets in the same investment. However, this mutualisation may not be appropriate across other clearing participants.

More work is necessary to ensure that CCPs have (or have access to) resources necessary to cover non-default losses. As a first step, it is crucial for CCPs and their supervisors to consider and stress test each potential non-default loss scenario.

Liquidity

Access to liquidity from central banks on standard market terms is necessary to support CCP recovery and resolution. CCPs should be required to hold sufficient high-quality, liquid, central-bank-eligible collateral to ensure they are able to access liquidity from central banks on standard terms. Requirements for the provision of this collateral would mitigate any concerns about central bank access for liquidity in recovery or resolution.

If CCPs do not have direct access to central bank liquidity in recovery and resolution, they would have to access liquidity through clearing members or other financial institutions with central bank access. Requiring this intermediation by clearing members and other financial institutions in a time of market stress would be procyclical, as these institutions may be under liquidity strains as well.

No distractions

Large volumes of over-the-counter derivatives are now cleared at CCPs, making these entities systemically important. While progress has been made in developing principles for CCP resilience, recovery and resolution, further work is needed to fully implement these recommendations across the globe. In doing so, more consideration needs to be given to important issues relating to loss allocation and the balancing of CCPs' books.

Regulators should not be distracted from the importance of effective resilience, recovery and resolution mechanisms for CCPs. This is critical to ensuring the continued safety and efficiency of the cleared derivatives market. IQ

A full version of the paper is available here: http://isda.link/safeguardingclearing.

ISDA RECOMMENDATIONS

- A resolution regime for central counterparties (CCPs) should indicate a time at which resolution could commence, but should allow flexibility for recovery to continue beyond that time.
- Clearing participants should have maximum transparency regarding the key elements of, and triggers for, a CCP resolution.
- CCP assessments on clearing members must be capped in aggregate across recovery and resolution.
- Subject to safeguards, variation margin gains haircutting could be used to allocate losses at the end of a CCP's default waterfall.
- Initial margin haircutting should never be permitted.
- Subject to safeguards, partial tear-ups could be used to rebalance a CCP's book if an auction or similar voluntary mechanism fails to do so.
- Forced allocation of positions to non-defaulting clearing members should never be permitted.
- Clearing participants suffering losses beyond a certain point in a CCP recovery or resolution should receive claims that position them senior to existing CCP equity holders.
- It is appropriate for clearing participants to bear at least a portion of some non-default losses, but CCPs and their shareholders should bear the risk of non-default losses that are solely within their control.
- Access to liquidity from central banks on standard market terms is necessary to support CCP recovery and resolution.

[3] ISDA's CCP members take different views regarding whether parent guarantees are appropriate. We also note that recent financial industry practices have been to move away from parent guarantees for other types of financial institutions

An Onward Step

Realising the enforceability of close-out netting in China has long been a priority for banks active in that market. Recent developments have given some in the market cause for optimism, but further progress is needed

Those who are involved in China's financial market received a welcome surprise in August. A letter from China's banking regulator was made public, which expressed support for close-out netting – an issue that has long been at the top of the wish list for those firms active in China's derivatives market. While the statement of support doesn't represent a legal change that would confirm the enforceability of close-out netting, the comments are extremely significant, and are the latest in a series of positive developments on the issue in China.

The letter was sent by the China Banking Regulatory Commission (CBRC) to the Financial and Economic Affairs Committee of the National People's Congress on July 4, in response to a legislative proposal for recognising close-out netting, and was made public in August. Significantly, the CBRC stated its view that China's Enterprise Bankruptcy Law does not, in principle, conflict with close-out netting – the first time a Chinese financial regulator has openly expressed its opinion on whether close-out netting would be permitted by China's bankruptcy law.

While the CBRC acknowledges that China's courts have the right to set aside a termination under the close-out netting provisions, it goes on to state its view that the purpose of this right is to invalidate close-out netting exercised in 'bad faith'. Notably, the letter adds that this does not conflict with the close-out netting provisions of the ISDA Master Agreement.

Resolution

In addition, the CBRC revealed it is in the process of drafting resolution rules for commercial banks in China, and confirmed the regulations will be drafted in line with the Financial Stability Board's (FSB) Key Attributes of Effective Resolution Regimes for Financial Institutions – an important point, as the FSB recommends a time limit on stays on early termination rights under bank resolution regimes. The letter adds that adequate consideration will be given to the suspension of termination rights under the close-out netting provisions of the ISDA Master Agreement, and notes that the CBRC will continue to coordinate with the legislature to promote protection for close-out netting.

Furthermore, the CBRC acknowledges the effect of netting in capital measurement. Specifically, the letter states that netting may be used as a capital mitigation tool for banks using the internal ratings based approach for capital measurement. In addition, revisions to the counterparty credit risk exposure and credit valuation adjustment rules will fully recognise the use of netting for risk hedging purposes, it states.

This letter doesn't eliminate the uncertainties that exist over whether close-out netting would be enforceable in a Chinese court. But public recognition of the importance of close-out netting by a Chinese regulator marks a big step forward.

This progress comes at an important time. As the world's second largest economy and third largest debt market, China has become an extremely important player on the world stage. With this growth, financial markets have flourished – and that includes the development of the domestic derivatives market. Increasingly, derivatives are being recognised as an important risk management tool by both foreign and domestic companies in China.

Recent developments include permission for foreign investors to use onshore foreign exchange derivatives such as forwards, swaps and options to hedge their bond positions, and pilot credit default swaps trades last year. Greater reliance on derivatives to manage and hedge risk exposures means it's important the right foundations are in place to support this growth. This includes netting enforceability (see box).

Significantly, the CBRC stated its view that China's Enterprise Bankruptcy Law does not, in principle, conflict with close-out netting

> Ultimately, legislative change or clarification may be required for China to achieve a clean netting status for regulatory capital purposes

Margin

At the same time, new margin requirements for non-cleared derivatives are being rolled out globally. Under these rules, US- and European-regulated entities are required to collect margin on a gross basiss when trading with counterparties in non-netting jurisdictions (except when European Union (EU) entities can satisfy the conditions of the exemption in Article 31(2) of the EU margin regulatory technical standards). That makes trading with US and EU counterparties that are subject to the rules more expensive for entities in non-netting jurisdictions – reducing the pool of potential counterparties for Chinese firms.

Memo

The CBRC letter is the latest in a series of recent developments on close-out netting enforceability in China, and represents years of discussion between ISDA, the financial industry, and Chinese legislators and regulators.

Earlier this year, ISDA updated its China netting memorandum, which analyses close-out netting enforceability against Chinese counterparties subject to the Enterprise Bankruptcy Law. The updated memorandum provides more detail on bankruptcy proceedings for China's commercial banks, securities companies and insurance firms. It also includes an updated section on changes that should be made to the ISDA Master Agreement when 'automatic early termination' is specified as applying to a Chinese counterparty, so all outstanding transactions under the agreement are terminated automatically if there's a bankruptcy petition relating to that counterparty.

This follows a collateral memo published in 2016, which analysed the enforceability of ISDA credit support documents under Chinese law. It also provided information on the legal and regulatory issues involved in exchanging collateral with a Chinese counterparty.

These initiatives have gone some way to helping firms build a picture about the state of play and the issues they need to consider when trading with Chinese entities that are subject to the Enterprise Bankruptcy Law. These are alongside a seminar in Beijing in June 2017, which highlighted close-out netting enforceability as the biggest challenge for Chinese banks in the derivatives space, and a technical paper submitted to the People's Bank of China in May 2017, which recommended steps China could take in order to achieve netting enforceability.

Ultimately, legislative change or clarification may be required for China to achieve a clean netting status for regulatory capital purposes. But the recent developments – in particular, the letter from the CBRC – is a hugely positive step in the right direction. IQ

WHAT IS CLOSE-OUT NETTING?

Close-out netting refers to the ability of a party to net the various mark-to-market values upon early termination of all existing transactions under an ISDA Master Agreement. The early termination would follow the default of a counterparty or certain other specified events.

Close-out netting is the foundation of good risk management, and results in drastically lower credit exposures between counterparties. Being able to offset the positive and negative values of multiple trades between a pair of counterparties into a single net payment from one to the other means a default will be less disruptive to the financial system.

The primary benefits include:

- Reduction in credit risk: Firms have a smaller net exposure to a counterparty, rather than having to manage larger gross exposures.
- Reduction in systemic risk: Credit risk exposure at each node in the network of counterparty relationships is smaller, which can reduce the systemic impact of a default.
- Ability to hold lower capital requirements under Basel Committee on Banking Supervision rules, subject to obtaining legal opinions that confirm the enforceability of close-out netting in each relevant jurisdiction. Lower capital requirements allow firms to free up credit lines, enabling them to offer more credit to the economy.

ISDA has commissioned netting opinions in more than 60 countries, with others in the pipeline.

10 Questions with...
John Feeney

John Feeney, head of conduct, corporate and institutional bank at National Australia Bank and vice-chair of ISDA, discusses the changes brought about by regulation, the prospects for technology and the 2017/18 Ashes cricket series

IQ: Can you tell us about your role at National Australia Bank?

John Feeney (JF): I was until recently head of pricing and conduct coordination, but my job has changed to head of conduct, corporate and institutional bank. My previous role included XVA, collateral and capital pricing and management. These were very much in the developing stage five years ago, when the market was just adopting new disciplines in pricing. More recently, I have been spending increasing amounts of time developing conduct risk management. Much like XVAs five years ago, conduct risk management practices are rapidly developing and becoming mainstream. Now, I spend my time working on this area of change.

IQ: How have derivatives markets changed in recent years – and are these changes for the better?

JF: Post-crisis regulation has changed derivatives markets in ways we could never have predicted. The move to central clearing, electronic execution and trade reporting have fundamentally changed the market structure. New participants have risen from small players to dominant positions in many markets. Just take a look at the Bank for International Settlements triennial reports to see the changes in geographical spread and designation (buy or sell side) of derivatives users. There has been a real increase in participants formerly seen as buy side, which now provide liquidity in many markets. The traditional roles for

banks have changed, and we have seen the democratisation of derivatives markets as credit and cost barriers have fallen.

Are these for the better? I believe so, because we now have a deeper and wider representation of market players with less reliance on a few liquidity providers. This has to be a good development for the future stability of the derivatives markets.

IQ: What are the biggest areas of focus for derivatives market participants at the moment?

JF: Perhaps the biggest issue is the implementation of non-cleared derivatives margin requirements over the next few years. This requires much attention from front-office, legal and operations areas as processing and complexity increases. A close second is the changing requirements under the revised Markets in Financial Instruments Directive. Third is the change to benchmark administration and fallback provisions.

IQ: How do you expect the derivatives market to evolve in the coming years?

JF: The 2016 ISDA whitepaper on market infrastructure identified a major change in the way derivatives will be dealt and managed in the future. The development of the ISDA Common Domain Model and the emergence of distributed ledger and smart contracts will revolutionise data management, confirmation and settlements. This is a major change, and will have significant implications for derivatives markets for the next few years and beyond.

IQ: Do you think the derivatives market in Australia differs from elsewhere – if so, how?

JF: The Australian dollar swaps market is the fourth largest in the world, but more than 60% is dealt outside Australia. This has changed gradually from 2000, when more than 60% was dealt in Australia. This alone has major consequences for the Australian derivatives market. Where once the Australian market was unique to Australia, and Australian dollar derivatives were dominated by local firms, the market is now more global in nature and the participants are more varied. So I believe the Australian market is now much more global in thinking – almost the reverse of the question.

IQ: How would you describe ISDA's role in the market?

JF: ISDA plays a critical role for derivatives in establishing and maintaining standards and conventions. Probably the best known is the ISDA Master Agreement from 1987 and its subsequent amendments. A more recent example is the ISDA Standard Initial Margin Model (ISDA SIMM), which provides a simple and standardised way to calculate initial margin.

I would also add that ISDA devotes significant resources to public policy as it affects derivatives. The combination of the ISDA staff and the members has consistently provided well-researched responses to public consultations and relevant information to guide better policy.

IQ: What ISDA initiative/initiatives are most important from your perspective?

JF: At this time, the ISDA Common Domain Model has the potential to radically change the infrastructure that supports derivatives trading and operations. While ISDA does not pick winners in a technology sense, we do create the standards and conventions that underwrite the efficiencies that will accrue from new technologies like distributed ledger and smart contracts. The revolution in the way we handle and store our data will change market economics – but we do need standards.

IQ: Does the Australia/Asia-Pacific region have a big enough voice within ISDA?

JF: This is a difficult question. One comment that I am sure will find broad support is that the Asia-Pacific region is very unlike the European and North American areas. For a start, the number and variety of jurisdictions, each with varied approaches to regulation and levels of derivatives market maturity, make the region a real challenge for ISDA. Many small voices do not add up to a large voice, and the nuances of the region are easy to overlook. The ISDA challenge for the future will be to find a way for Asia-Pacific jurisdictions to get resources as their markets mature and derivatives need standards and conventions.

IQ: What do you think you'd be doing if you didn't work in finance?

JF: My career took a turn in 1987 away from scientific research to finance. Basically, there were few jobs for mathematicians in academia and plenty of demand in the new field of derivatives. So, if I wasn't in finance, I would still be in research, probably wondering what I could have done 30 years ago to take a different path.

IQ: The next Ashes series starts this month (a cricket series between Australia and England). Your prediction, please?

JF: Australia, of course. I still want to live here, and any other response may be interpreted as treason! IQ

"The ISDA Common Domain Model has the potential to radically change the infrastructure that supports derivatives trading and operations"

Margin Matters

ISDA's latest margin survey shows $1.41 trillion of margin is posted on cleared and non-cleared trades, as the rollout of new margining requirements and introduction of clearing mandates start to shape the collateral landscape

The derivatives industry is in the midst of a major change in collateral practices, spurred on by the growing number of cleared trades and new rules for the margining of non-cleared derivatives activity.

According to the latest ISDA margin survey, approximately $1.41 trillion of collateral was posted for cleared and non-cleared derivatives trades by the end of the first quarter of 2017. Of this amount, initial margin (IM) posted by market participants to central counterparties (CCPs) for their cleared trades totalled $173.4 billion, while $107.1 billion in IM was posted to the 20 largest market participants for non-cleared derivatives transactions. Variation margin (VM) for cleared transactions equalled $260.8 billion, while $870.4 billion in VM was received by the largest 20 dealers for non-cleared trades.

The analysis come on the back of regulatory reforms that have significantly affected collateral practices in cleared and non-cleared derivatives markets. In September 2016, the 20 largest derivatives dealers – known as phase-one firms – were required to meet new regulatory requirements for their non-cleared trades. These rules were expanded to a second phase of derivatives users on September 1, 2017, and will be phased in for ever-broader circles of market participants until 2020. All in-scope entities are now subject to variation margin requirements.

Total collateral received by 20 phase-one dealers for non-cleared derivatives:

$977.5 billion

Clearing volumes have also grown rapidly since the financial crisis, resulting in an increase in collateral posted to CCPs. Approximately 76% of interest rate derivatives notional outstanding was cleared at the end of 2016, according to the Bank for International Settlements (BIS).

Non-cleared derivatives

ISDA's margin survey focuses on collateral received and delivered by the top-20 dealers on their non-cleared trades. This is broken down into VM, regulatory IM (margin required to be exchanged under new margin rules) and discretionary IM (margin that is exchanged as a result of bilateral negotiations rather than regulation).

According to the analysis, the estimated total amount of collateral received by the 20 phase-one firms for their non-cleared derivatives portfolios was $977.5 billion, and the amount delivered by these entities equalled $748.6 billion as of March 31, 2017 (see Table 1).

Phase-one firms are estimated to have delivered $47.2 billion of regulatory IM and received $46.6 billion of regulatory IM for non-cleared derivatives transactions. Given that only phase-one firms were required to deliver or receive IM for non-cleared derivatives as of March 31, 2017, the fact these regulatory IM amounts are very similar is to be expected.

In addition to regulatory IM, phase-one firms delivered an estimated $16.3 billion of discretionary IM for non-cleared derivatives transactions and received $60.5 billion of discretionary IM as of March 31, 2017. The difference between discretionary IM delivered and received is likely due to the

HIGHLIGHTS OF THE ISDA MARGIN SURVEY

- Initial margin (IM) and variation margin (VM) posted by clearing participants to CCPs for cleared interest rate swaps (IRS) and credit default swaps (CDS) totalled $434 billion at the end of March 2017. IM and VM posted by market participants to the top-20 dealers for their non-cleared derivatives reached $977.5 billion.
- The 20 largest dealers delivered $63.6 billion of IM and received $107.1 billion of IM for their non-cleared derivatives transactions. VM delivered by these firms totalled $685 billion and VM received was $870.4 billion.
- The amount of IM delivered to CCPs by market participants for cleared IRS and CDS totalled $173.4 billion at the end of the first quarter of 2017. VM posted to CCPs for cleared IRS and CDS was approximately $260.8 billion.
- The $1.41 trillion total excludes margin posted on cleared products other than IRS and CDS, and also excludes margin on non-cleared derivatives exchanged between non-top-20 firms.

TABLE 1: IM AND VM FOR NON-CLEARED DERIVATIVES

Estimated Regulatory Initial Margin Received	46.6
Estimated Regulatory Initial Margin Delivered	47.2
Estimated Discretionary Initial Margin Received	60.5
Estimated Discretionary Initial Margin Delivered	16.3
Estimated Variation Margin Received	870.4
Estimated Variation Margin Delivered	685.0
Total Collateral Received	977.5
Total Collateral Delivered	748.6

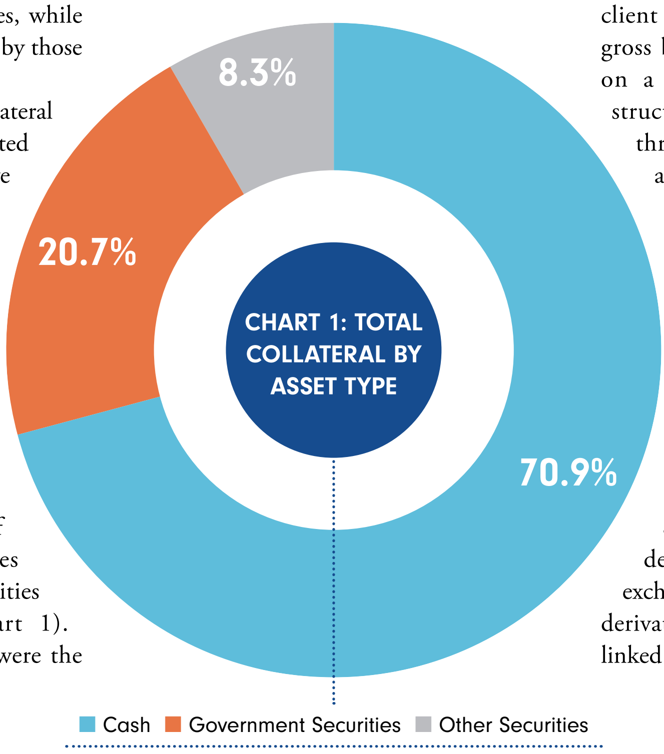
In US$ billions

fact that phase-one firms are more likely to have one-way credit support documentation in place that only requires their non-phase-one counterparties (but not themselves) to post IM.

An estimated $685 billion of VM was delivered by phase-one entities, while $870.4 billion in VM was received by those firms as of March 31, 2017.

A significant portion of the collateral posted and received was concentrated among the largest firms. The top-five entities by amount of collateral (out of 18 firms that supplied data) represented approximately 51% of regulatory IM, 68% of discretionary IM and 46% of VM delivered by phase-one survey participants.

Cash was the most popular type of collateral for phase-one firms on their non-cleared trades, representing 70.9% of the total. Government securities comprised 20.7%, and other securities accounted for 8.3% (see Chart 1). However, government securities were the most popular form of collateral used by phase-one firms to meet regulatory IM requirements (86.3%) and discretionary IM (46.5%). Cash comprised 79.2% of VM delivered by phase-one dealers for their non-cleared transactions.



Note: Based on non-cleared derivatives collateral at 18 phase-one firms

Cleared derivatives

The survey shows the amount of IM delivered by clearing participants to CCPs totalled $173.4 billion, while VM delivered to CCPs for single-name and index credit default swaps (CDS) and interest rate swaps (IRS) at the end of the first quarter of 2017 was about $260.8 billion.

The amount of IM delivered to CCPs for cleared derivatives has been gradually increasing over the past several years, from $117.3 billion as of September 30, 2015 (see Chart 2). This reflects the operational and cost efficiencies that can be obtained through clearing, as well as the introduction of clearing mandates.

The survey differentiates between IM posted by clearing members for their own positions (house net) and IM posted on behalf of clients. As of March 31, 2017, house net IM totalled $79.3 billion, while client IM equalled $94 billion. Out of that client IM, $90 billion was calculated on a gross basis and $4 billion was calculated on a net basis. Under a net margin structure, a clearing member only passes through to the CCP the net exposure across a set of clients. Under a gross structure, the margin is posted in full to the CCP.

In perspective

According to the BIS semiannual over-the-counter (OTC) derivatives statistics for the end of 2016, the notional outstanding of all derivatives transactions was $483 trillion. This comprised $368.4 trillion in interest rate derivatives, $68.6 trillion in foreign exchange contracts, $10 trillion in credit derivatives, $6.1 trillion in OTC equity-linked derivatives, $1.3 trillion in OTC →

Initial margin posted by market participants to central counterparties for their cleared trades totalled $173.4 billion

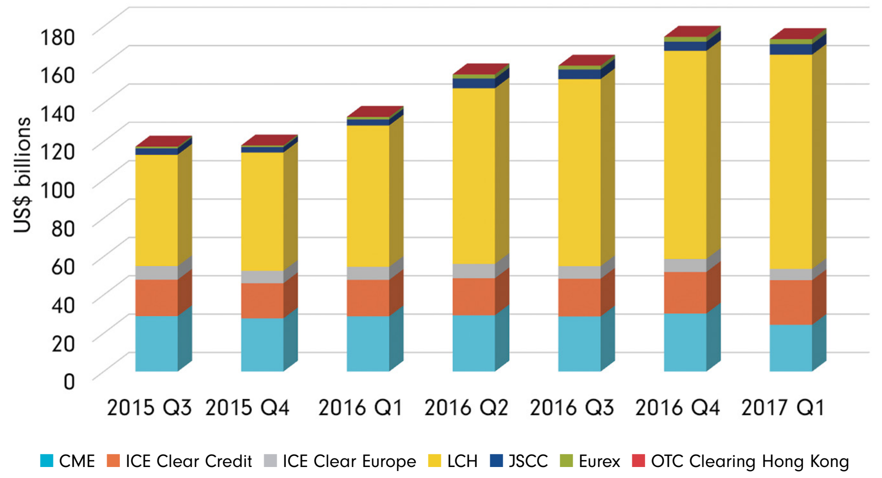
→ commodity derivatives and a $28.3 trillion unallocated portion.

The BIS estimates that 76% of interest rate derivatives, 44% of CDS and 1% of OTC FX notional outstanding was cleared at year-end 2016. Assuming equity-linked and commodity derivatives are non-cleared, and excluding the $28 trillion of unallocated positions, the survey estimates that total notional outstanding of cleared derivatives was $285 trillion compared with $169 trillion of non-cleared derivatives at end-December 2016.

Against the $285 trillion in notional outstanding of cleared derivatives, clearing participants have posted $173.4 billion of IM with CCPs as of March 31, 2017. ISDA estimates VM paid to CCPs by clearing participants for CDS and IRS products was approximately $260.8 billion at the end of March 2017[1].

Looking at the $169 trillion notional outstanding in non-cleared derivatives, the survey estimates the 20 phase-one firms had received an estimated $107.1 billion of IM and $870.4 billion of VM. However, the amount of the non-cleared segment subject to margin requirements is likely to be significantly smaller than the estimate of $169 trillion in notional outstanding due to a variety of reasons. Legacy trades transacted prior to the implementation of the margin rules do not require regulatory IM (although IM may be posted as a result of counterparty negotiation). In addition, certain types of counterparties – such as non-financial corporates – are exempt from the rules, while others will never exceed the minimum thresholds. Certain products, including physically settled FX swaps and forwards, are also exempt in certain jurisdictions.

CHART 2: REQUIRED INITIAL MARGIN FOR CLEARED IRS AND CDS



Source: CCP disclosures

METHODOLOGY

For non-cleared derivatives, the survey reflects 20 firms with the largest derivatives exposures. These firms were subject to the first phase of the new margining regulations for non-cleared derivatives in the US, Canada and Japan from September 2016 and in Europe from February 2017 (known as 'phase-one' firms).

Of the 20 phase-one firms, 18 responded. To construct an estimate for the entire group, the survey used the average of the initial margin (IM) and variation margin (VM) of the five largest survey participants to approximate the missing data for one of the larger phase-one firms, and the average of the sixth to tenth largest firms to estimate the missing data for the other phase-one entity. These estimates were based on the disclosed amounts of over-the-counter derivatives notionals of the firms.

While this methodology was used to estimate the overall amounts of IM received and delivered by phase-one firms for their non-cleared derivatives, only the amounts actually reported by the 18 firms that participated in the survey were used for the more detailed analysis on the concentration and composition of margin.

For cleared derivatives, the survey used publicly available central counterparty (CCP) margin data from CME Inc and ICE Clear Credit in the US, Eurex Clearing, ICE Clear Europe and LCH Group (including LCH Ltd and LCH SA) in Europe, and the Japanese Securities Clearing Corporation and OTC Clearing Hong Kong Limited in Asia-Pacific. The collected data only reflects margin for interest rate swaps (IRS) and credit default swaps (CDS). This data is published by CCPs under public quantitative disclosure standards set out by the Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions.

CCPs do not disclose total VM paid by clearing participants. This was estimated by multiplying the average total VM paid to the CCP by participants for each business – which is disclosed by CCPs – by the number of business days in the quarter. The share of VM for IRS and CDS is estimated based on the pro-rata contribution of the IM.

[1] Notional outstanding represents the total face value of all trades that currently exist, so is a rough measure of trading activity. It does not reflect risk. In contrast, IM is the collateral that has to be posted to a counterparty at the beginning of a trade, reflecting the position's market risk during a close-out period. VM is the collateral exchanged during the life of the contract, reflecting daily changes in the market value of the trade

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ISDA fosters safe and efficient derivatives markets to facilitate effective risk management for all users of derivative products

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ISDA achieves its mission by representing all market participants globally, promoting high standards of commercial conduct that enhance market integrity, and leading industry action on derivatives issues.

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Representing the industry through public policy engagement, education and communication

AN ADVOCATE FOR EFFECTIVE RISK AND CAPITAL MANAGEMENT

Enhancing counterparty and market risk practices and ensuring a prudent and consistent regulatory capital and margin framework

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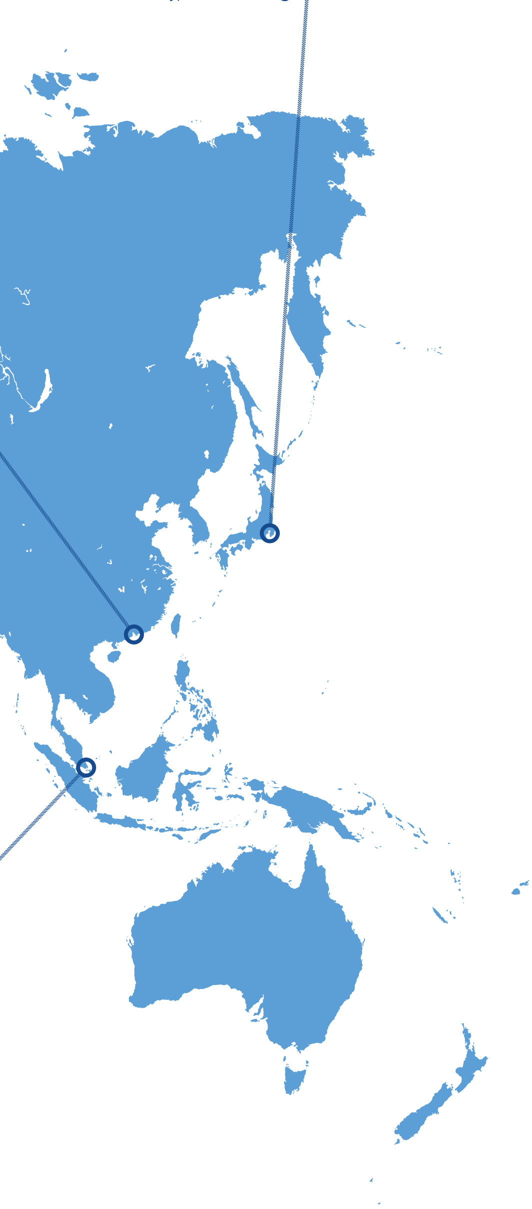
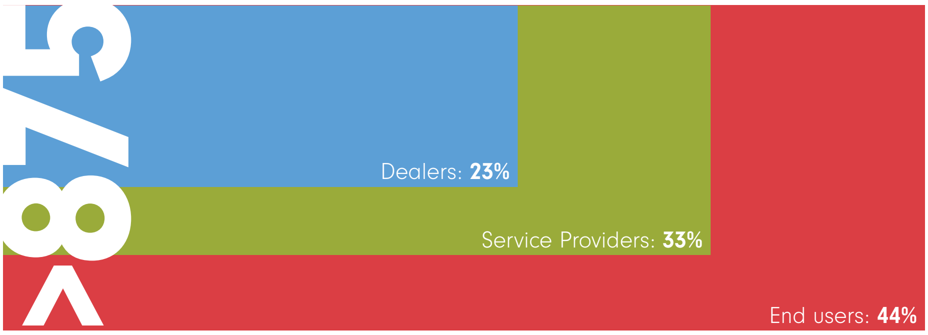


ISDA has over 875 member institutions from 68 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, clearing houses and repositories, as well as law firms, accounting firms and other service providers.

MEMBERSHIP BREAKDOWN

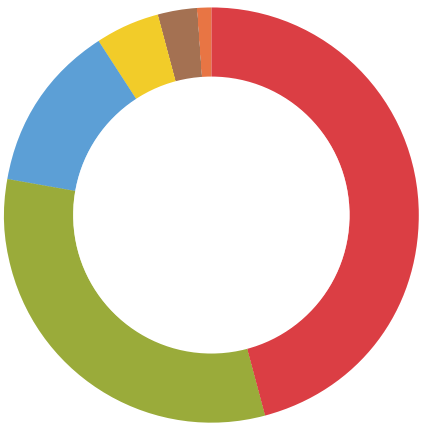


TYPES OF MEMBERS

Banks	31%
Law Firms	23%
Asset Managers	10%
Government Entities	11%
Energy/Commodities Firms	7%
Diversified Financials	6%
Other	12%

GEOGRAPHIC COLLATERALISATION

Europe	46%
North America	32%
Asia-Pacific	13%
Japan	5%
Africa/Middle East	3%
Latin America	1%



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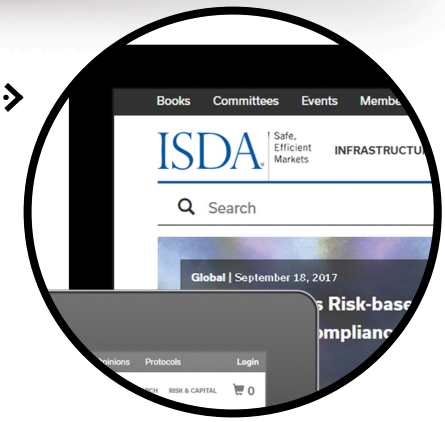

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*

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Mike Conaway, House Committee on Agriculture