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ISDA® Quarterly

Vol 5, Issue 1: January 2019 | www.isda.org

*TIME FOR RECALIBRATION

Evidence suggests the margin rules are not appropriately aligned with the policy objectives of incentivising clearing and reducing systemic risk

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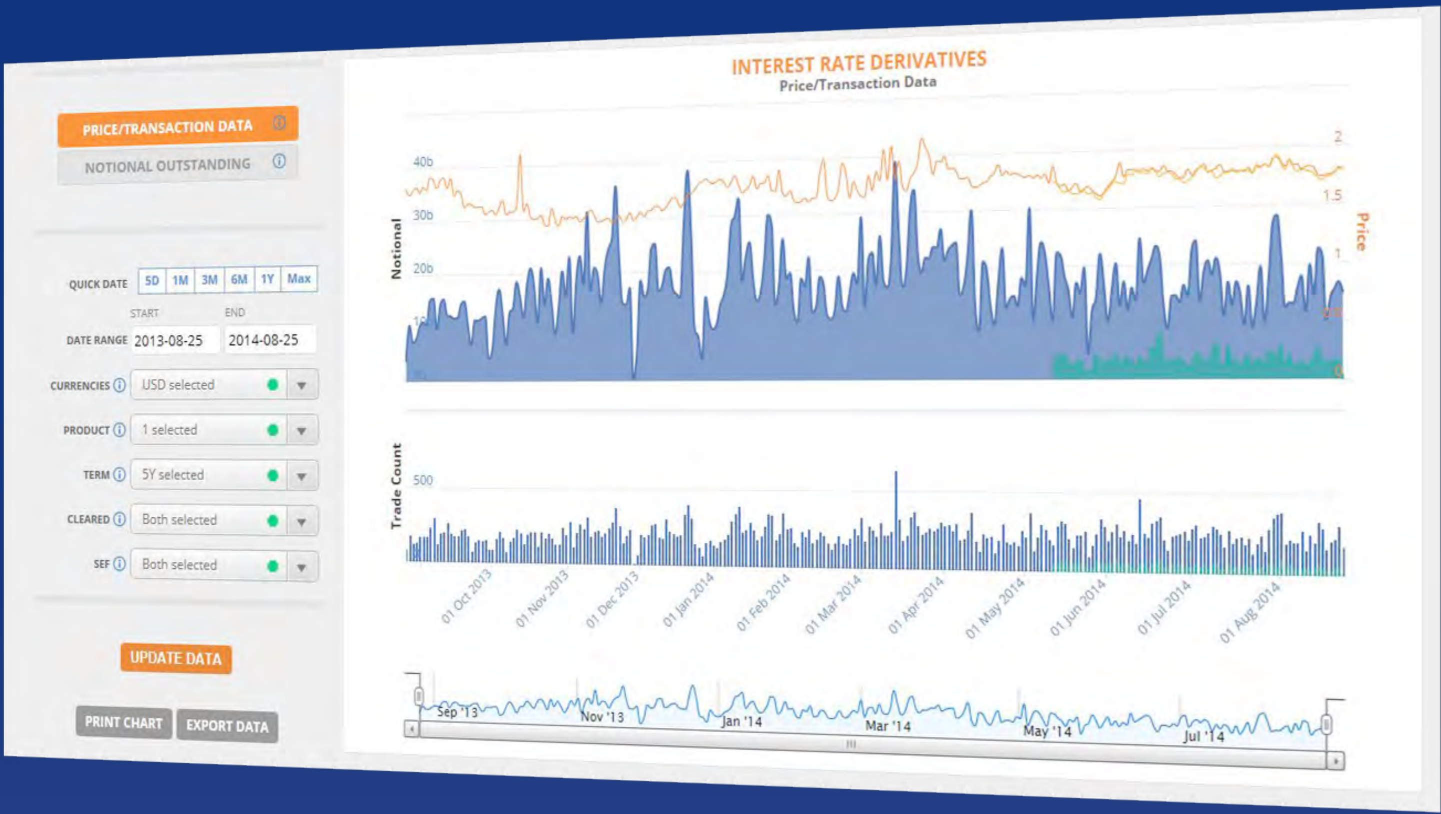

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A Few Predictions

It's traditional to start the New Year with a few predictions. When it comes to forecasting the priorities for derivatives markets, however, this year's list is easier than most to put together: Brexit, benchmark reform, margin, cross-border issues and technology.

On Brexit, 2018 ended with some positive news – the rollout of the European Commission's contingency plan for a no-deal Brexit on December 19. Crucially, this included a temporary equivalence decision aimed at reducing disruption in the central clearing of derivatives. But with the Brexit date fast approaching, there's still plenty of uncertainty about the form of the UK's exit from the European Union (EU) and what it will mean for derivatives users.

Significant progress was made on benchmark reform in 2018, but this will continue to be a key priority in 2019 – particularly with the transition period for the EU Benchmarks Regulation set to expire at the end of the year. Work to implement robust fallbacks for derivatives referenced to certain key interbank offered rates will also be a focus, building on the final results of an ISDA consultation on technical issues related to new benchmark fallbacks, published in December.

On margin, preparations for the September 2019 and 2020 phase-ins of initial margin requirements will pick up pace, as market participants get ready for a much larger universe of in-scope entities. Industry solutions – such as ISDA Create – IM, a new online platform for producing, delivering, negotiating and executing initial margin documentation – will be crucial. But there are also growing voices calling for the phase-five compliance threshold to be reviewed, following evidence showing that the bringing of a large number of small entities into scope will not contribute to a reduction of systemic risk – contrary to one of the key policy objectives of the rules.

Cross-border harmonisation has long been a key priority for ISDA, but the issue is likely to come to further prominence with the Japanese presidency of the Group of 20. Eliminating regulatory and market fragmentation has been identified by the incoming presidency as a key issue, and ISDA will continue to contribute by providing data, analysis and proposed solutions.

Finally, the adoption of new technologies will pick up pace, as firms look to reduce costs and improve efficiencies. Developments like the ISDA Common Domain Model will help ensure standardisation and facilitate interoperability across firms and platforms.

These issues – and many others – will form the basis of ISDA's work for 2019. A last prediction: ISDA will continue to develop standards, documentation and mutualised industry solutions to help firms meet the challenges for this year and in the years ahead.

Nick Sawyer
Head of Communications & Strategy
ISDA

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Head of Communications & Strategy, **Nick Sawyer**, nsawyer@isda.org
Global Head of Public Policy, **Steven Kennedy**, skennedy@isda.org
Art Director, **Nick Palmer**, nick@sidelong.co.uk

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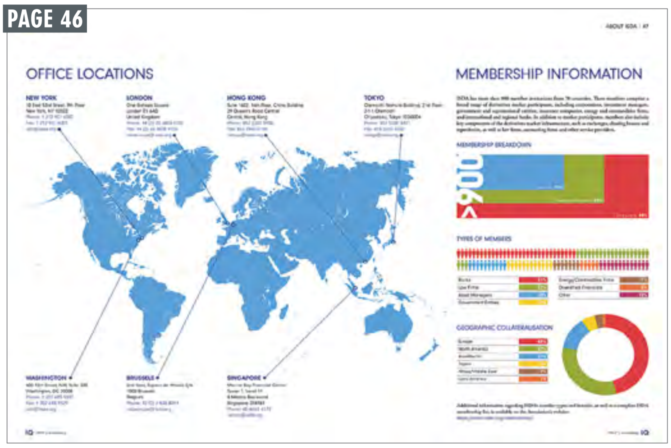

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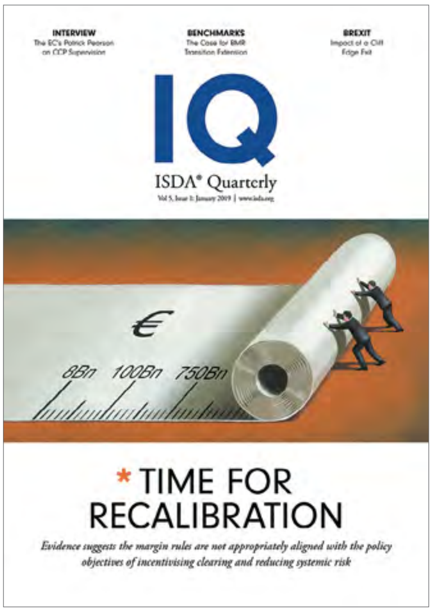

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"There always seems to be a lot going on and we cannot become complacent. Benchmark reform and cross-border equivalence are the two issues that are top of mind. Markets are moving and innovation will continue"

Jack Hattem, BlackRock

Predictable Regulation

Huge progress has been made in reforming derivatives markets over the past 10 years, but further work is needed to create a consistent and predictable cross-border regulatory framework

Over the past 10 years, a remarkable event has occurred in the world's political and financial capitals. Policy-makers in the European Union (EU), the US and elsewhere embarked on a largely consistent agenda of regulatory reform to make derivatives markets more robust and resilient, based on a set of commitments agreed jointly by the Group-of-20 (G-20) nations.

The resulting national requirements are not identical, but they are comparable – they all achieve similar objectives of increasing transparency and mitigating systemic risk. Where we have fallen short is creating a framework that allows entities from two different jurisdictions that have applied comparable requirements to trade under a single set of rules. There has not been sufficient appreciation that complying with two sets of similar but not identical requirements is extremely difficult and costly.

The ability to trade across borders under a consistent and predictable regulatory framework is crucial for end users. Derivatives markets were developed to facilitate the transfer of capital from where it is to where it is needed. Without an effective process for recognising comparable overseas rules, global liquidity will ultimately fragment into regional pools, increasing costs and complexity.

"The ability to trade across borders under a consistent and predictable regulatory framework is crucial for end users"

Fortunately, there has been recent progress on this front. The first was an agreement between the European Commission and the US Commodity Futures Trading Commission (CFTC) to recognise each other's trading regimes. This means a firm in one jurisdiction can satisfy local trading requirements by trading on a venue in the other location. The second was a proposal by the CFTC chairman, J. Christopher Giancarlo, to revise the agency's cross-border framework to defer more to overseas regulators and recognise rules that are broadly comparable in outcomes as equivalent. This would be a big step in reducing complexity, duplication and costs for end users.

Unfortunately, a number of forces are pushing in the other direction – a loss of faith in the benefits of globalisation, regional rivalries, trade negotiations and Brexit.

Capital markets are used to managing economic risk, but tackling political risk or fragmentation as a result of regulation is a different challenge altogether. Markets want regulatory and legal certainty.

To achieve this, UK and EU policy-makers should continue to take all necessary steps in advance of Brexit to avoid disruption by ensuring mitigating actions take effect from the date the UK leaves the EU. That includes taking all available preparatory steps and, where possible, accepting applications and adopting advance formal decisions so they take effect at the point Brexit occurs.

Medium-term, EU policy-makers will need to provide clarity on the process and standards for third-country regimes to gain access to the EU post-Brexit – not only for the UK, but for other countries like Australia, Canada, Hong Kong, Japan, Singapore and the US, where financial reforms based on the G-20 commitments are well established.

Long-term, these countries need to establish a consistent and transparent cross-border recognition regime that is comprehensive and covers both risk-based activities, such as capital and margin rules and central counterparty regulation, and non-risk related rules, like trading, public reporting and various post-trade services. This cross-border equivalence regime should rely on overseas rules that are comparable in outcomes, and the regulatory review and approval process should be both consistent and certain.

Global derivatives markets enable firms to efficiently and cost-effectively raise financing and manage their risk. For this to work properly, we need regulatory consistency, trust, cooperation and recognition. Failure to achieve this will ultimately serve no one – not the firms looking to raise the capital and investment needed for economic growth, nor the entities that need to manage their risk.

Scott O'Malia
ISDA Chief Executive Officer

IM Threshold Should be Reviewed, Say O'Malia and Litvack

The final phase of global margin requirements for non-centrally cleared derivatives will capture a large number of small entities without meaningfully increasing the overall amount of margin posted, and the rules should therefore be recalibrated as they are not meeting a key policy objective of reducing systemic risk, according to ISDA chief executive Scott O'Malia and chairman Eric Litvack.

Speaking at ISDA's regional conference in London in September 2018, O'Malia and Litvack expressed concerns that when the threshold for posting initial margin falls from €750 billion to €8 billion in aggregate non-cleared derivatives exposure in September 2020, it will bring a disproportionate number of new firms into scope.

"Without a change to the €8 billion level, these smaller companies face a significant compliance burden without actually posing enough of a systemic risk to require margin to be posted. The pressure on resources across the industry will also be severe, potentially leading to disruption in the non-cleared derivatives market," said O'Malia.

ISDA estimates that more than 1,100 new entities will be caught by the slashing of the threshold, equating to roughly 9,500 trading relationships and 19,000 initial margin custody accounts. But analysis also shows that a sizeable number of these newly in-scope entities are unlikely to actually exchange initial margin as their counterparty exposures will fall below the posting threshold of €50 million (see pages 12-15).

An industry association letter sent to regulators in September 2018 called for the phase five threshold to be raised from €8 billion to €100 billion, which would cut the number of new entities by 83% without materially reducing the volume of initial margin posted.

"We need to ensure the rules are targeted appropriately and meet the stated policy objective of mitigating systemic risk," said Litvack.

The final phase of the margin rules is not the only challenge that will confront the industry next year – benchmark reform also looks set to come to a head in 2020, as the transition period for the EU Benchmarks Regulation (BMR) is scheduled to expire and adoption of new risk-free rates in place of interbank offered rates (IBORs) continues.

The European Central Bank will begin publishing the newly selected euro short-term rate (ESTER) later this year – by October at the latest – but that will leave a very short window of time for market participants to prepare for adoption of ESTER, prompting calls for an extension of the BMR transition period. Meanwhile, work continues to build liquidity in markets referencing new risk-free rates before LIBOR's possible discontinuation after 2021.

"ISDA has been working to raise awareness about the issue and support the industry as it prepares to adopt alternative risk-free rates," said O'Malia. "But it's vital everyone engages with this now. Develop an IBOR transition programme, allocate budget and resources, assess your firm's exposure to the IBORs. Don't get left behind."

Along with preparing for the adoption of new risk-free rates, market participants also need to prepare for the possible discontinuation of an existing rate, underscoring the importance of robust fallbacks for derivatives contracts. ISDA carried out a detailed consultation last year on technical adjustments that would need to be applied to fallback rates in the event of an IBOR being discontinued, and published the results in December.

"Having robust fallbacks is critical for the stability of the financial system. If an IBOR permanently ceases to exist, it is vital that market participants have certainty that their existing IBOR contracts will fall back to a robust and clearly defined reference rate," said O'Malia.

> "Without a change to the €8 billion level, these smaller companies face a significant compliance burden without actually posing enough of a systemic risk to require margin to be posted"
>
> **Scott O'Malia, ISDA**

The implications of Brexit will also be a major focus for the industry over the coming years, O'Malia added, whatever the terms of the UK's exit from the European Union (EU). At the point the UK becomes a third country to the EU, equivalence determinations will need to be immediately adopted to avoid the interruption of trading and clearing activity (see pages 36-39).

"This will be a real acid test for the cross-border framework. Given the fact the rules between the two will be the same, anything other than a quick equivalence determination would be a massive setback for cross-border harmonisation," said O'Malia. IQ

More Focus Needed on Fragmentation, Urges Japanese Regulator

Derivatives market fragmentation can impair financial stability, reduce liquidity and trap scarce resources, and more must be done to fulfil commitments made by Group-of-20 (G-20) nations to implement global standards consistently and promote a level playing field, a senior Japanese regulator has warned.

Speaking at the ISDA regional conference in Tokyo in October 2018, Ryozo Himino, vice minister for international affairs at the Japanese Financial Services Agency (JFSA), reviewed key sources of market fragmentation and suggested a balance should be struck between global standard-setting and national tailoring of rules.

"As the financial regulations grow in their body and complexity, myriad technical differences in national regulations are creating unintended impediments to cross-border transactions and activities," said Himino. "We cannot and should not aim for full harmonisation of regulations. More and more goods, services, people, information and money flow across borders. The benefit of globalisation continues to grow exponentially, but the side effects of globalisation grow as well."

Every area of regulation, he said, has unique reasons for cross-border consistency and for tailoring to national specificities, and those factors should be weighed against one another to determine the best approach in each case.

As an example, Himino suggested there is no need to promote identical capital adequacy regulations for community banks in all jurisdictions, whereas harmonisation is much more important for non-cleared derivatives margin requirements.

"Cross-border consistency in margin requirements on OTC derivatives is a prerequisite for a cross-border transaction. Inconsistencies can fragment the market, while the need to differentiate requirements among major financial centres is relatively low," said Himino.

The JFSA's recognition of the importance of these cross-border issues in derivatives markets should come as welcome news to practitioners, particularly as Japan assumes the presidency of the G-20 this year, which may add momentum to efforts to resolve cross-border concerns.

Also speaking at the Tokyo conference, ISDA chairman Eric Litvack reflected that while cross-border coordination had been relatively effective in the margin framework, it has been "less fruitful" elsewhere.

"While there have been several important successes in agreeing substituted compliance and equivalence, the determinations have, for the most part, been based on granular, rule-by-rule comparisons that take time and can ultimately result in frustration and added complexity," said Litvack.

If global derivatives markets are to function effectively, he added, there must be a robust cross-border framework that recognises overseas rules that are comparable in outcomes and avoids competitive distortion, without requiring the rules to be identical.

"This was recognised by the G-20 back in 2009, which stressed that the reforms should be implemented in a way that ensures a level playing field and avoids fragmentation of markets, protectionism and regulatory arbitrage," said Litvack.

In his own speech, Himino explored four particular sources of regulatory fragmentation that unduly increase the risk of market fragmentation. First, discrepancies arise when incompatible requirements are imposed by different authorities on the same financial institution.

Second, when jurisdictions incorporate extraterritoriality into their regulations, different requirements can be imposed on the same market or transaction.

Third, implementation of globally agreed standards on different timetables leads to de-synchronisation, which can increase risk to financial stability during transition and increase costs to market participants and regulators.

"As the financial regulations grow in their body and complexity, myriad technical differences in national regulations are creating unintended impediments to cross-border transactions and activities"

Ryozo Himino, Japanese Financial Services Agency

Noting the diverse timelines adopted by jurisdictions and repeated slippage in implementing margin requirements for non-centrally cleared derivatives, Himino called on standard-setting bodies to consider how the standard-setting process might encourage timely implementation across jurisdictions. "Simpler and clearer standards with limited need for institution-specific authorisation would have a greater chance of timely implementation," he said.

Fourth, Himino noted that some jurisdictions use regulations to secure resources or activities within their own jurisdictions. Such competition "can be heightened by a lack of trust between authorities or the desire to attain regulatory autonomy over the markets that are critical to the jurisdiction", he said.

Welcoming the attention paid by the Financial Stability Board to these cross-border challenges, Himino cautioned that this was only the beginning. The JFSA would like to make sure the initiative is forward-looking and action-oriented, addressing future risks and finding practical solutions, he said.

"Combatting market fragmentation should be our common goal," Himino said.

ISDA CDM Nears Completion for Rates and Credit

The ISDA Common Domain Model (CDM) will shortly be made available to all market participants for core interest rates and credit products, with the next priority being to extend the model to equities over the next six months.

"By creating a standard representation for events and products, we will have a consistent, transparent and accurate blueprint of the market that can be used by all market participants, infrastructures, platforms and regulators. This will allow firms to achieve greater automation and innovation – at scale – which will transform the back office and make it much more efficient," said Scott O'Malia, chief executive of ISDA, speaking at the ISDA Technology Forum in New York in November 2018.

Development of the ISDA CDM began in February 2018, with the goal of supporting greater consistency and interoperability in the derivatives market. Historically, firms have established their own systems and representations for standard trade lifecycle events. Recognising there is no commercial advantage to companies maintaining these individual representations, and that this actually increases costs and required resources, the model offers the opportunity to improve efficiency and create greater standardisation of processes.

"Today, market participants spend huge sums to reconcile vital trade data. It is wildly inefficient, it suffers from inaccuracy, and it is labour intensive," said O'Malia. "Year after year, firms are slashing front-office headcount, reducing the universe of products they offer, and cutting regional services. In contrast, back-office processes – and, in particular, legacy IT systems – have been left untouched, as there has been no alternative to the current inefficiencies."

Driven by new regulations on trade execution, clearing and data reporting, market participants are looking for the highest levels of accuracy and automation to meet the new requirements. The ISDA CDM enables a consistent hierarchical representation across trades, portfolios and events and is compatible with any programming language.

ISDA published an initial digital representation for interest rates and credit derivatives products in June 2018. This included a first set of core business events, including 'new transaction', 'rate reset', 'partial termination', 'allocation', 'novation' and 'compression'. Since publication of the ISDA CDM 1.0, ISDA members have been able to test and further refine the model. In September 2018, Barclays hosted a hackathon that brought together 140 coders to use the CDM to develop solutions that increase the efficiency of derivatives processing.

"The hackathon gave us the chance to test specific use cases, and prod and poke the model to see how it performs in the real world. The 31 teams totalling 140 coders, split between London and New York, set to work on a number of tasks. Several demonstrated the application on different blockchain and cloud environments, and one person even theorised about enabling Amazon's Alexa to help navigate and learn about the CDM," said O'Malia.

> "By creating a standard representation for events and products, we will have a consistent, transparent and accurate blueprint of the market that can be used by all market participants"
>
> **Scott O'Malia, ISDA**

Elsewhere, efforts to standardise and digitise documentation processes have gathered pace with the development of ISDA Create – IM, a platform that allows firms to produce initial margin (IM) documents and share them electronically with multiple counterparties at the same time.

As the industry prepares for the final phases of the implementation of IM requirements for non-centrally cleared derivatives in September 2019 and September 2020, ISDA Create offers smaller entities a valuable way to manage the documentation burden associated with the posting of IM.

"This will massively cut down on the amount of time it takes to negotiate IM documentation, as well as allow firms to store the resulting data in digital form," said O'Malia. "Creating a more standardised language and common menu of choices will cut down on the time it takes to negotiate an agreement, and will contribute to the creation of a standard, industry wide legal agreement data model, which can then be part of the CDM."

Meanwhile, work continues on the development of smart contracts, which could dramatically reduce the level of manual intervention involved in derivatives processing. Early proofs of concept suggest smart contracts have real potential in the derivatives market, but the vision is still some way from reality.

Consensus must be reached on which contractual clauses can be automated and which involve too many complex permutations and should therefore continue to be managed manually. Legal issues must also be tackled to determine which laws apply to assets with no physical location. A legal working group within ISDA is exploring these issues and a whitepaper will be published in the coming months.

"This effort, along with our work on the CDM, is intended to create the foundations for a more automated and efficient derivatives market. Technology can fundamentally revolutionise derivatives markets by creating significant efficiencies. What's more, it's becoming more and more important for banks to realise these efficiencies at a time of constrained growth and profitability," said O'Malia.

ISDA Updates Model Netting Act

ISDA has published an update of its Model Netting Act, designed to provide a template that can be used by jurisdictions considering legislation to ensure the enforceability of close-out netting.

The Model Netting Act draws on ISDA's 30 years of experience of working with policy-makers and regulators across the globe on close-out netting legislation, and provides guidance and model provisions for those legislators looking to increase legal certainty under local law for netting. The 2018 act and accompanying guide expand upon previous versions, with updates to reflect the widespread adoption of bank resolution regimes, the introduction of mandatory margin requirements and the growth of Islamic finance.

> "Close-out netting is the single most important risk mitigation tool in derivatives markets"
>
> **Katherine Tew Darras, ISDA**

Close-out netting enables firms to terminate outstanding transactions with a counterparty following an event of default and calculate the net amount due to one party by the other. Without close-out netting, firms would need to manage their credit risk on a gross basis, dramatically reducing liquidity and credit capacity.

Regulators allow close-out netting to be recognised as risk-reducing for the purposes of regulatory capital requirements, so long as there is a high degree of legal certainty over the enforceability of close-out netting under the local law in each jurisdiction – hence the importance of netting legislation.

"Close-out netting is the single most important risk mitigation tool in derivatives markets, and results in drastically lower credit exposures between counterparties. We believe the development of close-out netting legislation creates more certainty for financial institutions, and encourages more participation. Once these elements are introduced, the conditions are in place for local derivatives markets to thrive," says Katherine Tew Darras, ISDA's general counsel.

ISDA has long campaigned for netting certainty, and has worked with authorities across the globe to help them draft legislation on the enforceability of close-out netting and collateral arrangements. ISDA has published netting opinions on more than 70 countries. The act and guide reflect various international legal and regulatory standards on netting, and include a list of jurisdictions that have enacted netting legislation or are in the process of doing so. IQ

The 2018 Model Netting Act and guide is available on the ISDA website (bit.ly/2PySJVF).

ISDA Publishes Final Results of Benchmark Consultation

ISDA has published the final results of a consultation on technical issues related to new benchmark fallbacks for derivatives contracts that reference certain interbank offered rates (IBORs).

The consultation – which was launched in July 2018 – covered the proposed methodologies for certain adjustments that would apply to the fallback rate in the event an IBOR is permanently discontinued.

The results of the consultation – summarised in a report prepared by The Brattle Group in December – show that an overwhelming majority of respondents prefer the 'compounded setting in arrears rate' for the adjusted risk-free rate (RFR), and a significant majority across different types of market participants favour the 'historical mean/median approach' for the spread adjustment.

Most respondents would prefer to use the same adjusted RFR and spread adjustment methodology for all benchmarks covered by the consultation – sterling LIBOR, Swiss franc LIBOR, yen LIBOR, TIBOR, euroyen TIBOR and the Australian Bank Bill Swap Rate. ISDA expects to launch a supplemental consultation on US dollar LIBOR and potentially other benchmarks early in 2019.

In line with the results, ISDA will proceed with developing fallbacks for inclusion in its standard definitions based on the compounded setting in arrears rate and the historical mean/median approach to the spread adjustment for the benchmarks covered by the consultation. In the coming months, ISDA and its independent advisers will work to determine the appropriate parameters for the historical mean/median approach to the spread adjustment (including, for example, whether to use a mean or median calculation and the length of the historical lookback period).

As part of this work, ISDA will publish the results of sensitivity analyses to provide all market participants with a better understanding of the range of parameters in the historical mean/median approach. ISDA and its independent advisers will also work to address technical issues that need to be resolved to finalise the precise formula for calculating the spread adjustment and the compounded setting in arrears rate.

Before implementing fallbacks in its standard definitions, ISDA expects to solicit additional feedback from market participants on the final parameters of the historical mean/median approach to the spread adjustment. IQ

Read the anonymised narrative summary of responses to the ISDA consultation on term fixings and spread adjustment methodologies at bit.ly/2R0ljEW

THE COVER PACKAGE

Time for Recalibration

Margin requirements for non-cleared derivatives were designed to incentivise clearing and reduce systemic risk, but evidence suggests the rules are not appropriately aligned with these goals

When the Basel Committee on Banking Supervision and the International Organization of Securities Commissions published their margin requirements for non-cleared derivatives, they were explicit in describing what the rules were trying to achieve – to promote central clearing and reduce systemic risk.

More than two years after the rules first came into effect, and with three phases of the five-phase implementation complete, a quick look at the data might suggest those objectives are being met. Notably, clearing volumes have increased across asset classes, and – in the case of the US – exceed what is required under the Commodity Futures Trading Commission's clearing mandates.

But scratch below the surface and it gets more complicated. Recent research by the Financial Stability Board shows that the opportunity to reduce regulatory capital costs, manage counterparty risk and benefit from netting opportunities are stronger incentives for clearing than non-cleared margin requirements (see pages 16-19).

Similarly, there is evidence that the final phase of implementation in September 2020, which will see the threshold for compliance fall from €750 billion to €8 billion in notional non-cleared exposure, will bring into scope a large number of smaller firms without actually reducing systemic risk (see pages 12-15).

These are important findings, and have prompted both regulators and industry participants to question whether the rules are calibrated appropriately and achieve the original policy objectives without being excessively punitive.

While discussions over whether and how to recalibrate the rules continue, market participants still need to prepare for a larger universe of entities coming into scope of the rules. ISDA has supported industry preparations for the final two phases by clearly setting out the steps that must be taken in advance (see pages 24-25). Meanwhile, ISDA Create – IM, a new online platform, offers an automated way of negotiating initial margin documents (see pages 20-22). IQ

"We would define the most appropriate scope for phase five to be those firms that pose some systemic risk, but the analysis suggests that nearly 80% do not pose any"

Tara Kruse, global head of infrastructure, data and non-cleared margin, ISDA

* All Eyes on 2020

The 2020 implementation of the margin rules will capture a large number of entities, but most will not post initial margin due to the small size of their exposures. A recalibration of the compliance threshold is being proposed to ensure the rules meet the policy objective of mitigating systemic risk

A subtle shift in policy-making in recent times has seen the official sector take a critical pause, reflect on nearly a decade of frenzied regulatory change and review what is working and what might need revisiting. From Basel to Brussels and Washington, DC, regulators have been willing to consider recalibrations to the regulatory framework if warranted by both qualitative and quantitative industry feedback.

One such area where the body of information from the industry suggests a change should be considered is in the implementation of margining requirements for non-cleared derivatives. The rules were calibrated with the explicit intention of reducing systemic risk and promoting central clearing. But the framework, which began a phased implementation in September 2016, is scheduled to extend to a large pool of small, non-systemically important entities in September 2020 as the threshold for inclusion plummets to its fifth and final level of €8 billion in aggregate notional value of non-cleared derivatives.

Crucially, ISDA analysis shows many of these newly in-scope entities will not be required to exchange initial

> "One of the key policy objectives of the margin requirements was to reduce systemic risk, but analysis shows the rules are not appropriately aligned with this goal"
>
> **Scott O'Malia, ISDA**

Illustration: James Fryer

margin (IM) due to the small size of their exposures – indicating the rules are not aligned with the policy objective of reducing systemic risk. The scale of industry upheaval that could be unleashed by phase five without materially reducing systemic risk or even increasing the amount of posted collateral is such that many market participants feel the calibration of the final threshold should be revisited.

"One of the key policy objectives of the margin requirements was to reduce systemic risk, but analysis shows the rules are not appropriately aligned with this goal. The smaller companies captured by the €8 billion threshold face a significant compliance burden without actually posing enough of a systemic risk to require margin to be posted," says Scott O'Malia, chief executive of ISDA.

€8 billion

The threshold for compliance with phase five of the initial margin requirements from September 2020

Thresholds

When the first phase of implementation began in September 2016, it applied to those firms with a notional value of non-cleared derivatives exceeding €3 trillion, effectively capturing only the largest dealers. That threshold has fallen each year in September – to €2.25 trillion in 2017 and €1.5 trillion in 2018. It is now set to drop to €750 billion in 2019 and just €8 billion in 2020.

Drafting of the margin requirements at an international level dates back several years, with the first iteration of the rules published by the Basel Committee on Banking Supervision and the International Organization of Securities Commissions (IOSCO) in September 2013, with subsequent amendments made in March 2015 before implementation began in 2016.

While larger market participants have managed to overcome the operational challenges associated with the calculation and posting of IM and variation margin (VM), it will inevitably be more difficult for smaller firms that don't have the same internal resources and budget to devote to the project.

"Phase five will capture a vast tail of market participants, and I'm not sure the additional cost of margining will make sense for them because it's a significant operational lift to repaper contracts, set up custody accounts and move to the daily exchange of margin. If you have a relatively small number of →

transactions, the operational costs translate to a much higher cost per trade than for larger market participants," says Eric Litvack, chairman of ISDA.

Given these operational and compliance costs, and with data showing that phase five implementation will have little impact on systemic risk reduction, industry participants argue there is a strong case to be made for reviewing the €8 billion threshold.

"It is hard to imagine that forcing new margin requirements on thousands of buy-side firms and funds will make a meaningful reduction in system risk," says Darcy Bradbury, a managing director at DE Shaw & Co. "Many asset managers already voluntarily clear their liquid non-mandated swaps, and many hedge funds already post initial margin amounts on their non-cleared swaps. If the threshold were raised, hedge funds would continue to post margin in the way we have done for years but would not need to completely refit our systems."

"It is hard to imagine that forcing new margin requirements on thousands of buy-side firms and funds will make a meaningful reduction in system risk"

Darcy Bradbury, DE Shaw & Co

Impact

In a paper published in July 2018, ISDA and the Securities Industry and Financial Markets Association (SIFMA) shone a light on the challenges that lie ahead if the threshold is not recalibrated.

Once the final stage of the framework is implemented, the paper warned, the cost and operational scale of compliance could mean that newly in-scope counterparties would find themselves unable to trade non-centrally cleared derivatives, which would limit their hedging options and potentially impact liquidity.

Based on data gathered by ISDA from most of the currently in-scope dealers, it is estimated that more than 1,100 entities will be caught by the fifth phase in 2020. This equates to roughly 9,500 new relationships with other counterparties, each of which will require new or amended documentation to be tested and uploaded into systems. On that basis, it is projected that as many as 19,000 segregated initial margin custody accounts will need to be set up and tested for the posting and collection of margin.

Given the operational bottlenecks that occurred when larger entities began posting IM in September 2016 and all participants began posting VM in 2017, there is concern that the market infrastructure may not be able to cope with the influx of smaller entities that will suddenly require new documentation and onboarding with custodians over the next two years.

"The timing and scope is a challenge, and the industry got a little sense of that in 2017 when we were implementing the variation margin aspect of the protocol, which brought to light some key issues regarding the number of relationships everyone has to deal with on a bilateral basis as new parties come into scope," said Biswarup Chatterjee, global head of electronic trading and new business development for credit markets at Citi, speaking at the ISDA regional conference in London in September 2018.

An ISDA fact sheet published last year sets out the key steps that must be taken to prepare for the IM exchange deadlines, including identifying in-scope entities, making disclosures to counterparties, exchanging compliance information and identifying any special cases that may apply (see pages 24-25). Firms must also establish relationships with custodians, build the necessary internal capabilities to calculate, post and receive initial margin, and negotiate and execute documentation. Final preparations and testing must be completed well ahead of deadlines.

"It's not only two parties dealing with each other about their legal and operational issues, but there are a host of middleware providers that help us in posting, receiving and storing of initial margin, and there are custodian agreements to be set up – these are third parties that people were never dealing with in the bilateral chain. You also have to deal with model validation, risk and a host of other issues," said Chatterjee.

Systemic risk

The margining rules for non-cleared derivatives were developed with two key policy objectives in mind: to incentivise clearing and to reduce systemic risk. Nonetheless, the evidence suggests that bringing roughly 1,100 new entities into scope of the framework will do little to mitigate risk. Depending on the IM calculation method that is used, ISDA estimates that 26-45% of the smallest counterparties and 69-78% of counterparty relationships are unlikely to exchange any IM at all, as they will fall below the $50 million threshold that is set for the exchange of IM.

Deeper analysis of ISDA's research shows a significant cliff effect between phase four – the €750 billion threshold – and the phase five threshold of €8 billion. While it might be expected that the entities caught by phase five will be of varying sizes, the analysis suggests 83% of firms will have a notional of non-cleared derivatives of less than €100 billion, while only 17% will fall between €100 billion and €750 billion.

In addition, 19% of phase five counterparties and 14% of phase five relationships will fall into scope only because of the inclusion of foreign exchange swaps and forwards in the calculation, even though those products are not actually subject to the IM exchange requirements.

"We would define the most appropriate scope for phase five to be those firms that pose some systemic risk, but the analysis suggests that nearly 80% do not pose any. When you remove FX swaps and forwards, the average amount of IM posted would be very minimal. This data is very valuable in highlighting what the industry is facing in phase five and how we might work to address that," says Tara Kruse, global head of infrastructure, data and non-cleared margin at ISDA.

Recommendations

Following the publication of the ISDA research, concerns over the implications of phase five have gathered momentum, and a detailed letter was submitted to the Basel Committee and IOSCO in September 2018 by a group of industry associations including ISDA and SIFMA.

On the basis that phase five will sweep in so many counterparties that don't pose systemic risk, and they will have to go through the extensive process of repapering documentation and setting up custodial accounts but ultimately exchange little or no IM, the group recommends several changes to the framework.

Firstly, given that most of the phase five counterparties fall towards the lower bounds of the gross notional threshold, the letter recommends this should be raised from €8 billion to €100 billion, or the equivalent in other currencies. This would not only reduce the overall industry compliance burden and avoid capturing so many smaller firms, but the analysis also shows it should not result in a large reduction in the total amount of IM posted, meaning the policy objective of reducing systemic risk will not be undermined.

Raising the threshold to €100 billion would slash the number of counterparties caught by phase five by 83%. Based on a calculation using the ISDA Standard Initial Margin Model, the amount of IM posted by parties in the band between the €8 billion and €100 billion thresholds two years into their obligation would be $75.7 billion – only 13.5% of the projected total $564.3 billion in callable IM – highlighting the minimal impact of the threshold change.

The industry letter also recommends that physically settled foreign exchange swaps and forwards should be removed from the aggregate average notional amount calculations, as their inclusion is currently increasing the number of in-scope counterparties. These are typically short-dated, liquid and low-risk contracts, so it is suggested they should be excluded from the calculation, just as they are for the IM exchange requirements.

"The data shows a really compelling trade-off between the number of counterparties that could be de-scoped to reduce the challenges of phase five and the amount of IM that would be lost as a result of that. In our view, this would not undermine the policy objectives. Even if regulators remove FX swaps and forwards from the calculation and raise the threshold to €100 billion, we will still have 200-300 counterparties coming into scope in September 2020, which is a big step beyond what we have dealt with before," says Kruse.

As the industry moves towards the penultimate phase of the margin framework in September 2019, it is hoped regulators and policy-makers take note of the research that has been carried out and review the phase-in thresholds on a consistent, global basis. The alternative would be to risk destabilising a framework that has many virtues but now requires some recalibration.

"Swaps are used for very important economic reasons and they play a key role in hedging strategies and investment portfolios. These measures have the potential to increase costs and penalise users without reducing systemic risk, which only stands to hurt investors and real economy users," says DE Shaw's Bradbury. IQ

> "We would define the most appropriate scope for phase five to be those firms that pose some systemic risk, but the analysis suggests that nearly 80% do not pose any"
>
> **Tara Kruse, ISDA**

* Weighing Incentives

Capital and margin requirements for non-cleared derivatives were explicitly calibrated to incentivise a shift to central clearing. But with clearing volumes running ahead of what is mandated, is it time to review the incentives?

Imagine that a derivatives trader left the industry in 2006, with absolutely no knowledge of what the following 13 years of financial crisis and regulatory reform would hold. Returning in 2019, he or she would notice many changes, not least that the vast majority of a largely bilaterally negotiated derivatives market had moved onto trading venues and central counterparties (CCPs).

What might be less obvious to the veteran trader, even after catching up on years of regulations, negotiations and policy speeches, is exactly how this had happened, particularly when it comes to central clearing. The transition to clearing has been a seismic shift for the swaps market, and has resulted in a reduction in counterparty risk and systemic risk. But simply assuming that the market was driven by the Group-of-20 (G-20) commitment to the central clearing of standardised contracts would be an over-simplification.

In fact, clearing has been adopted for multiple reasons, ranging from regulatory mandates to changing risk management practices and more nuanced regulatory and economic incentives. Analysis shows that clearing volumes in the US are now running ahead of mandates as a result.

Nonetheless, it was never intended that all derivatives products should be cleared. Certain end users are exempt from clearing mandates – for instance, non-financial corporates. Many products are also not yet accepted for clearing, particularly outside the interest rate and credit derivatives markets.

These non-cleared instruments play an important risk management role, allowing end users to customise their hedges to meet their particular needs. Consequently, both regulators and market participants are starting to look closely at the various incentives to clear to ensure they are calibrated appropriately.

"For a large proportion of the market, there is a significant advantage to clearing because of the offsets and economies that can be obtained by using a CCP. Given the high volumes

"As clearing volumes grow each year, there is a need to review the capital and margin incentives and where they are set at a punitive level rather than an incentive level, there should be a case for recalibration"

Steven Kennedy, ISDA

of clearing we now see, we must recognise that success is not necessarily moving 100% of the market into clearing. There are some end users and products that are still not well-suited to clearing," says Eric Litvack, chairman of ISDA.

Assessing incentives

The regulatory mandates for central clearing derive from the G-20 commitments on derivatives reform in 2009, and have filtered down to the industry through rules like the US Dodd-Frank Act and the European Market Infrastructure Regulation. The clearing mandates within those and other regulations have naturally driven increased use of CCPs over the past decade.

The incentives that drive the voluntary adoption of clearing are more complex and often less well understood, with multiple inducements serving in different ways to make clearing an attractive option for market participants.

For example, firms can derive benefits from multilateral netting by moving a greater proportion of business into clearing – so while those firms subject to clearing mandates will have to clear a certain amount, they may look to add non-mandated business where possible for the sake of netting. There are risk management benefits that can be derived from clearing too.

"If a hedge fund is trading liquid derivatives and already posting initial margin, there is a strong incentive to clear," says Darcy Bradbury, managing director at DE Shaw & Co. "Clearing reduces counterparty credit exposure and avoids margin being tied up with a defaulting counterparty, as was the case for many hedge funds during the Lehman Brothers bankruptcy. Clearing also can allow funds to reduce notional exposure and related risk more easily through compression and netting."

Other incentives to clear derive from the calibration of capital and margin requirements. For example, capital charges are much lower for exposures to qualifying CCPs, with a flat 2% risk weight rather than the full bilateral risk weight, adding an extra incentive to increase clearing beyond what is mandated. In a cleared environment, market participants will also see no or reduced credit valuation adjustment capital charges.

In addition, the margin rules for non-cleared derivatives have been explicitly set to encourage more clearing (see pages 12-15).

The key question is whether these incentives are calibrated at an appropriate level, and whether the capital and margin rules make it overly punitive to trade non-cleared derivatives – a situation that would deprive end users of a valuable risk management tool.

"There are obvious netting benefits and capital efficiencies that can be gained from clearing and once a firm reaches a certain tipping point, it will look to put as much volume of clearing-eligible products as possible into the clearing house. As clearing volumes grow each year, there is a need to review the capital and margin incentives and where they are set at a punitive level rather than an incentive level, there should be a case for recalibration," says Steven Kennedy, global head of public policy at ISDA.

Clearing vs mandates

Evidence suggests that while regulatory mandates may have been the catalyst to drive trades into clearing initially, other incentives have also played their part in accelerating the transition. Analysis published by ISDA in July 2018 shows that clearing volumes in interest rate derivatives (IRD) reported to US trade repositories have grown consistently since 2014, and crucially that market participants have been clearing more than what is mandated by the Commodity Futures Trading Commission (CFTC).

Of the total trading volume in US IRD, 88% was cleared in 2017, while only 85% was mandated for clearing. This is not unique: a gap between mandated and actual clearing has been observed every year since 2014 (see Table 1). As overall clearing volume has grown – from $111.1 trillion in cleared IRD notional in 2014 to $169.3 trillion in 2017 – the additional non-cleared portion of the market has steadily shrunk – from $32.7 trillion in 2014 to $23.9 trillion in 2017 – suggesting the balance is tilting conclusively towards clearing.

"The regulatory mandates were originally important in bringing a critical mass of business into clearing, but once firms have the systems and documentation in place, clearing becomes the desirable option for many products for economic and risk management reasons," says Bradbury.

While clearing volumes are most obviously running ahead of clearing mandates in the IRD market, the trend can be observed in other asset classes too. In credit default swap indices, traded notional has declined over the past few years, but a consistent, albeit small chunk of business has continued to be cleared voluntarily. In 2017, $5.3 trillion was cleared, versus $5.1 trillion that was actually mandated for clearing.

Clearing has also increased in foreign exchange derivatives, with a particularly marked increase after the first phase of margin requirements for non-cleared derivatives came into effect in September 2016. Notional outstanding of cleared FX derivatives jumped from $178 billion in the third quarter of 2016 to $312 billion in the last three months of that year, and peaked at $473 billion in the third quarter of 2017.

→

TABLE 1: PERCENTAGE OF US CLEARED AND MANDATED TO BE CLEARED IRD TRADED NOTIONAL

	Total US IRD Trading Volume (US$ trillions)	Cleared (%)	Mandated to be Cleared (%)
2014	143.8	77	73
2015	142.2	78	73
2016	166.3	84	77
2017	193.1	88	85

Source: ISDA analysis based on DTCC and Bloomberg SDRs data

"The problem with calibrating initial margin requirements on non-cleared derivatives to incentivise a move to clearing is that it's a pretty blunt instrument"

Eric Litvack, ISDA

→ The increase in clearing volume has prompted calls for a review of the various incentives, and to consider their effectiveness. For example, requirements that are overly punitive may end up pushing those end users that are exempt from clearing (such as corporates or sovereigns) to clear anyway to avoid the high costs of trading bilaterally. Alternatively, firms might opt against using a bespoke non-cleared product that exactly matches their exposure in favour of a standardised cleared product, resulting in increased basis risk.

"The FX market wasn't convinced there was a compelling case for clearing prior to September 2016, but the data suggests the arrival of the margin rules was sufficient to tip the balance without a clearing mandate. The incentives to clear and the incentives to margin are best aligned when they are proportionate to risk. But if they are disproportionate, then it may incentivise practitioners to trade in a way that is not best suited to their purposes," says Litvack.

Prioritising incentives

Regulators are broadly aware of the role played by incentives in driving up clearing volumes, and are looking to gain a more rigorous understanding of the interplay between the various factors.

Recognising the need to better understand how the incentives are working, a derivatives assessment team (DAT) drawn from multiple standard-setting bodies including the Financial Stability Board initiated a study in July 2017 to reassess whether adequate incentives are in place.

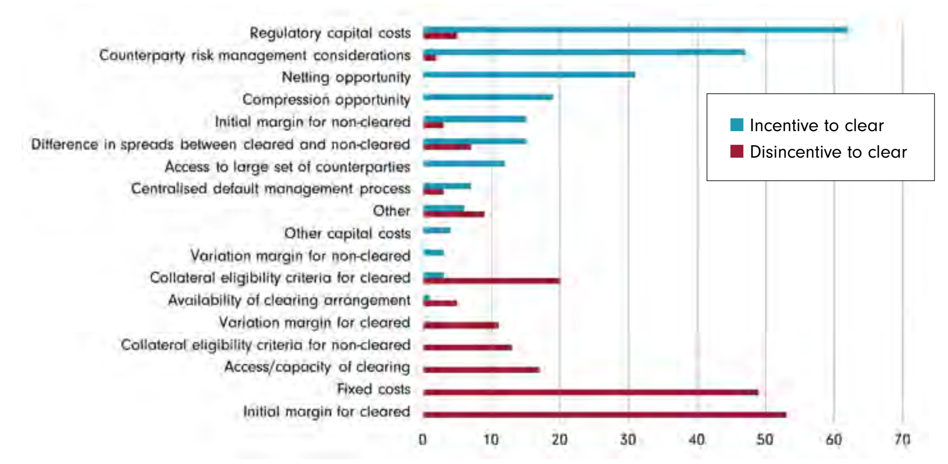
A detailed report in August 2018 set out the key findings of the study, which drew on a wide range of data and information sources, including four qualitative surveys that received 118 responses in total, and a quantitative survey of 21 of the largest over-the-counter (OTC) derivatives dealers. Following a consultation on the initial findings, a final report was issued in November 2018.

At a high level, the DAT report recognises that recent changes in OTC derivatives markets are consistent with the G-20 objective of promoting central clearing, and that the combined effect of capital, margin and clearing reforms has been to create an overall incentive – at least for dealers and larger, active clients – to use central clearing.

At a more granular level, dealers were asked to rank the factors that incentivise clearing of non-mandated products – a key question in assessing how the various strands of regulation are driving voluntary clearing. The three most important factors raised were the comparative regulatory capital costs for cleared and non-cleared derivatives, counterparty risk management considerations and the netting opportunities offered by CCPs (see Table 2).

Given the non-cleared margin requirements were explicitly calibrated

TABLE 2: THE WEIGHTED RANK OF THE TOP FACTORS INCENTIVISING/DISINCENTIVISING DEALERS FROM CENTRALLY CLEARING NON-MANDATED PRODUCTS



Source: Financial Stability Board

to promote central clearing (see box), it is perhaps surprising that initial margin was only ranked fifth among the factors that might drive voluntary adoption of clearing. The survey clearly shows that the innate economic and risk management benefits of clearing are acting as a stronger incentive than bilateral margin requirements.

"Margin requirements for non-cleared derivatives can act as an incentive to clear, but they are less effective and targeted than non-regulatory drivers of clearing attractiveness such as multilateral netting, regulatory capital, compression and credit risk mitigation. These are the factors that are really driving clearing," says Litvack.

"The problem with calibrating initial margin requirements on non-cleared derivatives to incentivise a move to clearing is that it's a pretty blunt instrument," he adds. "Once you have brought into clearing the products that can be cleared relatively easily, a punitive non-cleared margining regime also can act as an incentive to clear products with characteristics that may be less suitable for risk management within a clearing house, which could add to systemic risk rather than mitigate it."

Rethink

This is a key issue for the industry as concerns mount over the expected impact of the final phase of non-cleared margining requirements. As currently calibrated, phase five of the initial margin requirements rollout will bring a large pool of small market participants into scope in September 2020, potentially creating excessive incentives to clear, even for products and counterparties that are not mandated or suitable for clearing.

"Many of the capital and margin regulations had a two-fold purpose. They were intended to reduce systemic risk, but there was also an explicit goal to incentivise clearing. That's fine for transactions you can actually clear, but it doesn't make sense for transactions that cannot be cleared, because it creates a stick but no carrot," says Ulrich Karl, head of clearing services at ISDA.

The final DAT report runs to 121 pages and goes into detail on many of the key issues associated with clearing incentives. While it stops short of explicit policy recommendations at this stage, the report provides a valuable reference point for further work among standard-setting bodies to preserve the non-cleared market. This is an objective that was articulated as far back as December 2015 by J. Christopher Giancarlo, now chair of the CFTC, when the US rules on non-cleared margin were finalised.

"As regulators, we must be intellectually honest and acknowledge that there are legitimate and vital needs for both cleared and uncleared swaps markets in a modern, complex economy," said Giancarlo. "Uncleared swaps allow businesses to avoid basis risk and obtain hedge accounting treatment for more complex, non-standardised exposures."

The past decade has seen transformation in the derivatives market that makes it virtually unrecognisable from what it was before the crisis. For a practitioner that chooses to step away now and return in a decade's time, the real test of the industry's success at that point will not be the volume of swaps cleared through CCPs, but rather the health of the non-cleared market.

The DAT report is a vital first step towards the preservation and protection of the non-cleared market, but the next stage will be critical. While it is recognised that moving all derivatives into clearing would not be the right course of action, incentives must be carefully and regularly reviewed to ensure the industry doesn't inadvertently move towards that outcome.

"We are highly supportive of central clearing, as it helps to reduce counterparty risk and increase the resilience of the financial system. But the non-cleared margin rules apply across a broad range of products and counterparties, some of which may not pose systemic risk and may not be suitable for clearing. The regulatory incentives may not always be appropriate, so ongoing review is critical," says Scott O'Malia, chief executive of ISDA.

REVISITING MPOR

When drawing up the margin regime for non-cleared derivatives, the Basel Committee on Banking Supervision and the International Organization of Securities Commissions explicitly stated that the rules were calibrated to drive more business onto central counterparties. For example, the framework applies a 10-day liquidation period, also known as the margin period of risk (MPOR), as the basis for calculating non-cleared margin requirements – double the five-day MPOR applied to cleared trades.

Speaking in 2015, when the US rules on non-cleared margin were finalised, J. Christopher Giancarlo, now chairman of the Commodity Futures Trading Commission, called it a "made-up number" that should be revisited, and while no changes have yet been made, the issue shows little sign of receding.

"The proposed margin regime with a 10-day liquidation period for non-cleared swaps was, in my view, set up with a central clearing model in mind and designed to be costly in order to encourage clearing, which may impair activity in bilateral swaps," says Darcy Bradbury, managing director at DE Shaw & Co.

The question of whether the rules are appropriately calibrated is becoming increasingly important as the margin requirements gradually extend to a larger swath of the market, and practitioners suggest the current framework could drive smaller firms to abandon hedging with non-cleared derivatives as a means of avoiding it altogether.

"The 10-day MPOR doesn't have much empirical backing, given most portfolios would be closed out quickly during a crisis – typically in 12-36 hours. Pricing in a buffer makes sense, but this is a very large buffer and is reflected in the disproportionately high levels of margin now being held against the non-cleared business relative to the underlying notional," says Eric Litvack, chairman of ISDA.

According to ISDA's most recent margin survey, $130.6 billion of initial margin had been collected by the 20 largest market participants for their non-cleared derivatives by the end of 2017, versus $107.1 billion at end-March 2017.

* Paper Weight

The September 2020 rollout of initial margin regulations will require thousands of firms to negotiate and execute new margin documentation. How is the industry preparing to meet this compliance challenge? Can ISDA Create – IM help?

Analysis showing a large number of small firms will fall into scope of initial margin (IM) requirements from September 2020 has raised concerns that the margin rules are not meeting one of their key policy objectives – reducing systemic risk. But while regulators and the industry consider whether and how to recalibrate the rules to ensure they are more appropriate, market participants still need to prepare for a larger universe of derivatives users having to meet the requirements.

As it stands, the number of newly in-scope entities from September 2020 will be significant. According to analysis conducted by ISDA, a drop in the IM compliance threshold from €750 billion to €8 billion in aggregate average notional amount of non-cleared derivatives will capture over 1,100 smaller entities, which equates to more than 9,500 trading relationships.

Many of the newly in-scope firms will be familiar with posting variation margin, but IM presents a very different challenge that will require systems and processes to be adapted or built from scratch. New documentation will need to be negotiated and agreed with every counterparty, third-party custodial relationships will need to be set up, and IM calculation methodologies will need to be implemented and tested. That's despite the fact that most of the counterparty relationships will not exchange IM because they fall below a €50 million IM exchange threshold.

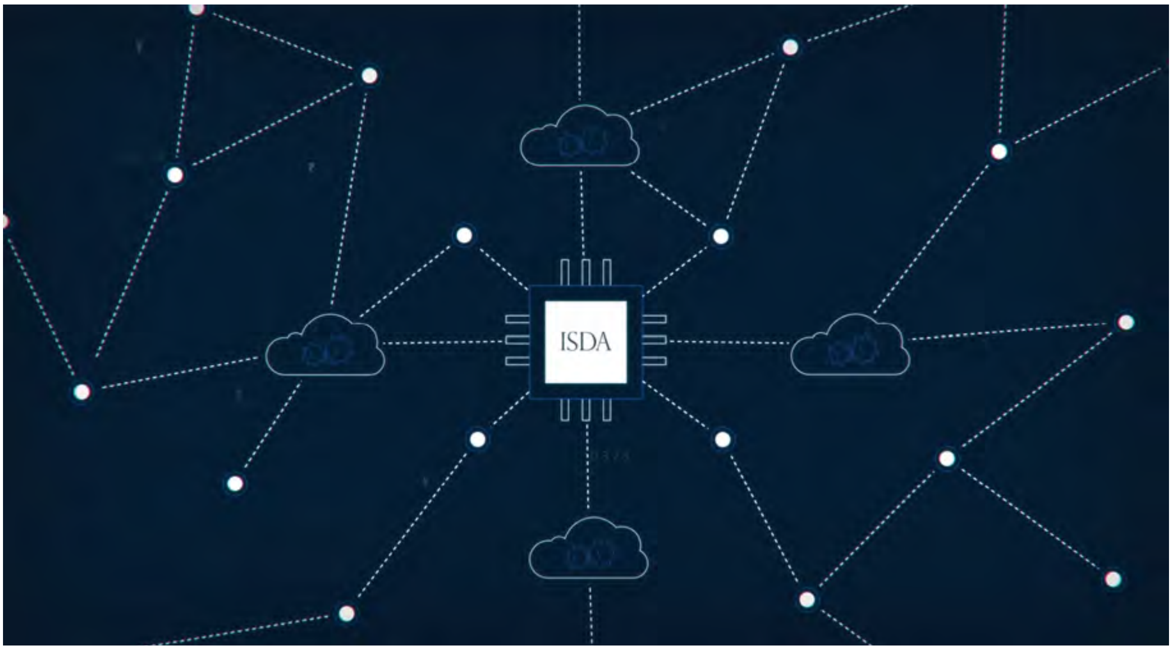
Preparation

Preparation for meeting these requirements will take significant time and resources – up to 18 months in some cases (see pages 24-25). The negotiation of new IM documentation will be particularly challenging. This process can be complex and laborious, involving lots of back and forth between counterparties. Given the number of entities currently expected to come into scope of the rules from September 2020, this could stretch resources to the limit and result in a bottleneck that could leave some users unable to access derivatives markets.

Technology could help provide an answer. Derivatives processes are increasingly becoming automated, as participants look to generate efficiencies and reduce costs. Contract negotiation, on the other hand, has been largely paper-based, reliant on manual practices that slow the time it takes to negotiate a document and create inefficiencies in the process post-negotiation. The manual capture of data

"Negotiating IM documentation typically takes significant time and resource, and has to be repeated over and over again with each counterparty. ISDA Create – IM will drastically improve the efficiency of this process"

Katherine Tew Darras, ISDA



Watch a video about ISDA Create – IM here: bit.ly/2Q4dOM4

from these documents into other systems can also lead to errors, increasing operational risk.

ISDA Create

This is now starting to change. In September 2018, ISDA and Linklaters jointly launched the beta version of ISDA Create – IM, a new online platform aimed at providing a more efficient way to negotiate and execute contracts on a mass scale.

The platform allows firms to select from a list of standard choices online, as well as customise documents based on their individual preferences. These elections can then be shared electronically with multiple counterparties at the same time, reducing the need to contact each entity individually. The system automatically matches the choices against those made by other parties and highlights any differences. Once complete, ISDA Create – IM will automatically draft an agreement between the parties, based on the elections and any additional text they want to include.

That will significantly cut down on the amount of time it takes to negotiate IM documentation, as well as allow firms to digitally capture, process and store the resulting data, which can be used for commercial, risk management and resource management purposes.

"Negotiating IM documentation typically takes significant time and resource, and has to be repeated over and over again with each counterparty. ISDA Create – IM will drastically improve the efficiency of this process, enabling parties to deliver a document to multiple parties at the same time, and then to negotiate changes on a bilateral basis using the platform," says Katherine Tew Darras, ISDA's general counsel.

Rollout

The release of the beta version of ISDA Create – IM will be followed by the launch of the live version in early 2019. As part of the development, ISDA has established a platform architecture working group to ensure ISDA Create – IM reflects broad industry feedback from both buy- and sell-side firms.

"With the number of participants subject to regulatory initial margin requirements set to increase exponentially in the run up to September 2020, there's a real need for an industry solution to make the process of negotiating and executing collateral documentation more efficient," says Emma Patient, senior legal counsel, global banking and markets, at HSBC.

"ISDA Create – IM will cut down the time it takes to agree collateral documents by enabling firms to negotiate online with multiple counterparties at once," adds Regan Rowan, managing director and associate general counsel at JP Morgan. "Firms will also be able to capture all the data digitally, rather than having to rely on manual input, which will reduce the potential for errors."

About 40 organisations are currently testing the platform, including the majority of the major dealers and several buy-side firms.

"As members of ISDA, we applaud its efforts to make the global derivatives markets more efficient. We look forward to seeing what ISDA Create – IM can do for our IM negotiations and related data capture, and how it can help us better serve our members," says Gregory O'Donohue, director and senior legal counsel, derivatives, at Ontario Teachers' Pension Plan.

The development of the IM tool has run in parallel with the drafting of next-generation ISDA IM documentation for

INFORMATION

For more information about ISDA Create, contact isdacreate@isda.org

"We are confident that the ISDA Create foundation being built for ISDA Create – IM can be used for myriad future documentation-focused technology initiatives led by ISDA"

Doug Donahue, Linklaters

phases four and five of the IM regulation phase-in, scheduled for September 2019 and September 2020, respectively. The new IM documentation and the existing phase-one documents will be supported on ISDA Create – IM.

Other ISDA documentation will be added to ISDA Create over time, creating an electronic negotiation platform ecosystem of ISDA and related (for example, custodial) documentation.

"The development and launch of ISDA Create – IM is a critical step for our industry as we all look to leverage efficiencies enabled by technology. As an ISDA platform, ISDA Create – IM has benefitted from an unprecedented amount of industry input from the most active sell-side and buy-side participants in the market. As a result, we are confident that the ISDA Create foundation being built for ISDA Create – IM can be used for myriad future documentation-focused technology initiatives led by ISDA," says Doug Donahue, partner at Linklaters.

Standardisation

Work has already begun to standardise other ISDA documentation to enable digitisation and electronic processing, starting with the schedule to the ISDA Master Agreement. As it stands, firms have negotiated changes to Master Agreement clauses over time, adding their own bespoke wording. Most of these tailored clauses achieve more or less the same thing, but the differences cause headaches and make automation challenging.

The aim is to create a more standardised language and common menu of choices that parties can elect to use. This will cut down on the time it takes to negotiate a document, and will contribute to the creation of a standard, industry wide legal agreement data model.

As well as enabling inclusion on ISDA Create, this standardisation is an important precursor to the development of smart contracts, which could drive further efficiencies and dramatically reduce the need for manual intervention.

ISDA is working on a variety of initiatives to identify documents and provisions that are suitable for standardisation, as well as highlighting legal issues that need to be considered when developing smart contracts (see pages 40-43).

Together, these workstreams will help shift contract negotiation, execution and ongoing performance from a largely paper-based, manually intensive process to a more automated one, creating a more efficient derivatives market. IQ

FEATURES OF ISDA CREATE – IM

- Enables users to produce, deliver, negotiate and execute IM documents with multiple counterparties simultaneously.
- Allows firms to digitally capture, process and store the resulting data.
- Provides powerful commercial, risk management and resource management functions, data and analytics.
- Online functionality makes the negotiation process more efficient and less time consuming from start to finish.
- Flexibility to take one or more steps offline if required.
- Removes the need for a post-execution transfer of data from negotiated documentation into internal systems and the chance of error during such a data transfer.
- Allows firms to make standard elections, as well as customise on a party-by-party basis.
- Automatically reconciles both standard elections and bespoke provisions exchanged, and flags differences in an efficient and easy-to-read way.
- Provides a robust and customised approvals workflow, which manages any deviations from a firm's preferred elections, complete with an audit trail.

* Getting Ready for the IM Rules

Complying with regulatory initial margin requirements will entail significant lead-time to put the necessary systems and documentation in place. ISDA sets out the steps for compliance

Each September until 2020, increasing numbers of entities will be required to meet initial margin (IM) regulations as the threshold level for compliance reduces. Preparation for meeting these requirements will take significant time, and will involve intensive work to ensure systems, processes and documentation are in place.

In order to comply with regulatory IM requirements, a number of steps will likely need to be taken – although not necessarily in the following order.

STEP 1: IDENTIFY IN-SCOPE ENTITIES EARLY

Each firm should determine which of its entities are likely to be in-scope for planning purposes.

- This should include all entities that are: (i) in-scope for variation margin (VM) requirements; and (ii) estimated to have an aggregate average notional amount (AANA) of non-cleared derivatives that exceeds the level for the relevant future phase-in date.
- For phase four (September 2019), the threshold is €750 billion; for phase five (September 2020), it is €8 billion (or similar amounts in other currencies, depending on the applicable regulations).
- The final determinations can only be made after the AANA observation window (typically between March and May for a September implementation). But firms will need to conduct estimates long before the observation window in order to have enough time to prepare.
- This may require some systems development work:
  - AANA must be determined at the consolidated corporate group level.
  - Calculations may need to be made in multiple currencies, depending on which rules apply.
  - AANA must be determined at the principal level – ie, aggregated across investment managers (where used). This may require advance communication between a principal and its investment managers.

STEP 2: MAKE EARLY DISCLOSURE TO COUNTERPARTIES

- Early two-way disclosure is needed to allow each firm to determine the number of counterparty relationships that will be affected.
- Parties are encouraged to participate in ISDA or other industry working groups to share this information in line with any industry best practices.
- Disclosure will need to occur 12-18 months before the IM go-live date, but:
  - More time will be needed for later phases, because more counterparties will fall in-scope at the same time.
  - Where a principal uses multiple investment managers, consideration will need to be given to which entity makes the necessary calculations and disclosures, and how this is best achieved.
  - Disclosure of relevant contact information is also encouraged to facilitate counterparty communications, particularly if this differs across legal entities in a group.

STEP 3: EXCHANGE INFORMATION ON COMPLIANCE

Important decisions need to be made about how firms will comply with the IM requirements. This information should be exchanged with each counterparty, and includes:

- Which custodian(s) will each firm and its counterparties use to post IM?
- How will each firm and its counterparties calculate IM

(eg, using the ISDA Standard Initial Margin Model (ISDA SIMM), regulatory tables (also known as grids) or some other method)?

- Each entity needs to determine minimum transfer amounts (MTAs) and IM thresholds, including how MTAs will be allocated between IM and VM. If a firm or its counterparty face each other via multiple entities in a group, then it must be determined how the IM threshold will be allocated.
- Each firm needs to agree on eligible collateral and haircuts with each counterparty and with custodians (as needed):
  - Firms posting only cash VM will need to plan to source additional forms of collateral to satisfy IM requirements.
  - Note any deadlines set by relevant custodians for submitting and activating collateral schedules.

STEP 4: IDENTIFY SPECIAL CASES

Determine whether any special cases apply.

- This might include considering the impact of non-netting jurisdictions, local law/language documents, stamp tax, registration of security and entity specific regulatory requirements (eg, UCITS).
- Consider legal opinion coverage required for compliance with the regulations.

STEP 5: ESTABLISH CUSTODIAL RELATIONSHIPS

Firms should establish relationships with the relevant custodians, and provide information on all in-scope counterparty relationships.

- This includes the custodian(s) used by the firm, and each custodian used by its counterparties. The work necessary to establish those relationships may depend on the type of custodian being used.
- KYC checks may need to be performed, which can take several weeks or months.
- New segregation accounts should be opened if needed.
- Enable communications with custodians.

STEP 6: PREPARE FOR COMPLIANCE

Firms will need to build up the necessary capacity for compliance in advance.

- Prepare a regulatory IM calculator (ie, ISDA SIMM and/or regulatory grid).
  - Prepare/map internal data inputs, including connection to the ISDA SIMM Crowdsourcing Utility (for equity and credit).
  - Develop calculation capacity, or set up with a vendor.
  - Conduct portfolio matching/ISDA SIMM test calculations with counterparties.
  - Obtain regulatory approval for use of the model, if necessary.
- Develop operational capacity as necessary (including any needed IT or other systems development):
  - Develop support for multiple IM and VM credit support annexes (CSAs) and collateral call issuance/reconciliation processes. Set up with any vendor(s) if needed.
  - Monitor wrong-way risk and concentration limits (depending on applicable regulations).
  - Derive and apply standard collateral haircuts based on external ratings and credit quality steps (EU regulations).
  - Calculate and apply FX haircuts where applicable for collected IM.
  - If using an outsourcing arrangement for any collateral management functions, ensure the relevant third-party collateral managers are sufficiently educated and prepared.
  - Even if a firm is not directly subject to regulations, it may need to develop systems to call for and receive eligible IM if the counterparty is required to post IM under regulations applicable to it.

STEP 7: NEGOTIATE/EXECUTE DOCUMENTATION

The necessary documentation will need to be negotiated and put in place with each counterparty ahead of the implementation date. This includes:

- A bilateral IM CSA or collateral transfer agreement/security agreement for each counterparty pair.
- A trilateral account control agreement or similar documentation for each counterparty/custodian trio. This may involve additional documents if accessing a custodian via an intermediary.
- Eligible collateral schedules.
- An ISDA SIMM licence agreement and ISDA SIMM Crowdsourcing Utility participation agreement (if needed).

STEP 8: FINALISE PREPARATIONS

Check all necessary relationships are up and running, and everything has been tested.

- Ensure account opening procedures are completed at all relevant custodians and internally within the firm's own systems.
- Test segregated account transfers with custodians.
- Test with all applicable third-party collateral managers.

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Enhancing EMIR

*Proposed revisions to the European Market Infrastructure Regulation could see third-country clearing houses having to comply with certain European rules. **Patrick Pearson**, head of financial market infrastructure and derivatives at the European Commission, explains the importance of regulatory cooperation in successful policy-making*

IQ: What are the priorities for the European Commission (EC) in the regulation of financial market infrastructures?

Patrick Pearson (PP): The EC's policy priorities remain unchanged: financial stability paired with open and competitive markets. This is sometimes easier said than done, as internal friction between these objectives is sometimes unavoidable. In terms of legislative priorities, our current proposals to improve central counterparty (CCP) supervision, remove redundant and inefficient derivatives rules, and finalise CCP recovery and resolution continue to demand significant time and resources from staff.

But other work that is maybe less in the limelight requires at least as much attention. Some examples: developing technical implementing rules for CCPs, trade repositories, central securities depositories and securities financing transactions, and preparing equivalence decisions. The preparation of a wide-ranging policy paper on post-trade policy is also taking up a lot of our time. In addition, the continuing bilateral conversations and meetings with the industry, trade federations and regulators from around the world remain priorities for us.

IQ: You have been very involved in discussions with regulators of other major derivatives jurisdictions since the financial crisis. How important is it to have a robust, predictable framework for equivalence? Has that been achieved?

PP: By design, clearing houses have become the central risk hubs of the global derivatives markets. Global derivatives regulators have spent the past several years developing and improving their local rules and regulations and, at the same time, making huge efforts to achieve as much international consistency as possible.

We are fortunate to have global forums to coordinate much of this work. The Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO) have set out broad prudential principles in their Principles for Financial Market Infrastructures (PFMIs), while the Group of 20 (G-20) has adopted a strong monitoring role through the Financial Stability Board and its specific derivatives working groups.

This sort of international cooperation with a focus on convergence remains key for market operators and regulators alike to avoid inefficiencies, overlaps and underlaps. To a large extent, I think we have achieved a considerable degree of convergence, but there are still issues that need our attention.

A good example is the issue of 'deference', which really needs a more in-depth discussion. What does it actually mean and what doesn't it mean? Should there be any limits to it and what would they be? And what are the implications in practice of 'deference'? That's why the EC is proposing to spend time on this with fellow regulators in a G-20 working group this year and to involve the industry in that discussion. I believe that predictability is at least as important for the industry as for regulators.

> "I believe the only way forward for supervisory cooperation is to continue talking to each other on as many occasions and at as many levels as possible"

IQ: How would you describe the state of cross-border regulatory cooperation? What more can be done to enhance supervisory cooperation between jurisdictions?

PP: Since the inception of the Basel Committee on Banking Supervision in the early 1970s, it has been clear that international cooperation is the oil in the regulatory machine. Having spent eight years on the Basel Committee before getting involved in derivatives regulation, I am convinced that international cooperation and global standards are the only way to achieve convergence and coherence in our regulatory efforts. Finance is global; rules should be as globally compatible as possible.

Having said that, most jurisdictions do have diverging processes and even terminology and definitions to implement and apply global standards, but these are local idiosyncrasies that we should be cognisant of. In all areas of finance – the International Association of Insurance Supervisors for insurance, the Public Company Accounting Oversight Board for accounting and auditing, CPMI-IOSCO for markets – international forums have been indispensable for colleagues to exchange views and experiences, work on minimum standards and, importantly, build good working relations.

This work has always pursued two connected objectives: efficient markets and financial stability. It is no coincidence that these forums have shown greater activity after a financial crisis than in a period of relative calm. I believe the only way forward for supervisory cooperation is to continue talking to each other on as many occasions and at as many levels as possible.

The EC not only meets regulators at all levels, but also government representatives, elected representatives of parliaments and trade representations in formal settings, as well as through frequent informal contacts. In my experience, those contacts can often offer a deeper understanding of what drives our fellow regulators.

IQ: Concerns have been expressed by some regulators over the European Market Infrastructure Regulation (EMIR) 2.2 proposal to require systemically important third-country CCPs to comply with relevant European Union (EU) rules, to provide the European Securities and Markets Authority (ESMA) with all applicable information and to enable onsite inspections. How do you respond to those concerns?

PP: First, I believe many of those concerns have been misunderstood and misinterpreted. On occasion, the proposals have perhaps also been misrepresented. This is disappointing because what is little known is that the EC travelled abroad to explain the legislative proposal with certain foreign regulators before it was even discussed with our own member states in the Council of the European Union working group.

As a basic principle, it's also clear that all jurisdictions, big or small, not only have a right to regulate as they see necessary, but also a duty to protect the stability of their financial system. What all three European institutions – the EC, the European Parliament and the council – firmly agree on is that the way in which third-country CCPs access Europe's financial market needs to be significantly improved: the current degree of documentation, information and supervision over systemically important clearing houses simply needs to be ramped up.

Also, the way in which the EU intends to do this is close to, and even inspired by, the way in which certain other jurisdictions →

→ go about it. We will put in place a framework of rules that allows us to identify those infrastructures that we think could impact the stability of our system through the type of transactions they clear. We will also need to upgrade the degree of information our authorities receive from firms entering the EU's single market to make sure we have a much better perspective of the risks we might be importing into the EU than we have now.

I can't conceive of any legitimate reason why anybody could raise objections about this. The fact that other jurisdictions have not yet identified a CCP from another country as systemically important for them does not mean they could not do this under their rules. Perhaps EU CCPs aren't systemically important for those other jurisdictions? Or maybe those regulators already have all the data and regulatory powers necessary to supervise and apply their requirements on them?

It goes without saying that ESMA won't instigate onsite inspections without the agreement of any fellow regulator. That's simply not the way it works – and third-country regulators have already carried out onsite inspections of 'their' clearing houses in the EU – why would the EU not be allowed to do the same?

IQ: Both the parliament and council have added preconditions to any decision to require a tier-two CCP to be established in the EU under the EMIR 2.2 text. What are your views on these changes?

PP: We work closely with the council and the parliament during the negotiations and the preparation of amendments to the EC's legislative proposal – in a way, this has been our institutional job over the past 50 years or so, and the process continues to work very well. Our internal processes might appear arcane to newcomers, but I must admit I also find some of the procedures outside the EU to be perplexing.

Of course, we fully support any clarification of the proposal by the parliament and council. We are also encouraged to see the considerable convergence between the parliament and council on how to improve our current approach to third-country CCPs. This opens the way for a rapid agreement on the proposal in the institutions.

IQ: What role should central banks play in CCP oversight?

PP: The important part that central banks play in the oversight of market infrastructures is not merely a perspective held within the EU. It is a key part of the globally agreed CPMI-IOSCO PFMIs, and the global central bank community was heavily involved in drawing up these principles. This is not surprising, as one of its principles unequivocally states that market infrastructures provide services that are vital for the financial system, including "safe and efficient means through which authorities can manage systemic risk and central banks can implement monetary policy".

Other principles agreed by all authorities expect central banks to perform their own assessments of CCPs, assess interoperability arrangements, monitor the effect of CCP measures on payments systems and monetary policy, and so on. This is entirely logical, as margins mitigate credit risk and are backed by collateral. On the other hand, margins and collateral can create liquidity stress in the market, while collateral haircuts could create liquidity risk.

In turn, CCPs can hold collateral at central banks to secure liquidity facilities in the event of a participant default. And a disruption affecting a major clearing house would of course have a significant impact on payment systems, as well as the transmission mechanism for monetary policy – banks and markets – and the instruments that central banks use for monetary policy activities such as repos.

That is why all G-20 central banks are involved in the oversight of CCPs today, either as direct supervisors of clearing houses in many cases or otherwise through an indirect role in view of their statutory responsibilities to ensure smooth and efficient payment systems, financial stability and monetary policy. What we are doing in Europe is providing these agreed global standards with a firm, transparent and legal legislative footing.

IQ: Recent communications on contingency planning for Brexit state that the EC will adopt measures permitting EU participants to continue accessing UK CCPs in a hard Brexit scenario for a time-limited period. How long would any temporary recognition regime last, and how damaging do you think no-deal Brexit market fragmentation would be to EU and non-EU market participants?

PP: The EC has over recent months consistently encouraged all stakeholders to prepare for the UK's withdrawal from the EU. This has also been underlined by the heads of state and government meeting in the European Council. Taking into account recent joint technical work of the European Central Bank and the Bank of England, the central banks have highlighted risks in relation to centrally cleared derivatives in particular.

In that situation, the current system of equivalence provides us with all the necessary tools to act quickly to avoid any disruption in central clearing and market infrastructure access if the UK were to leave the EU without an agreement. The EC has made it clear that, if we do need to act in such exceptional circumstances, we would do so to the extent necessary to address financial stability, under strict conditionality and with limited duration. The time remaining until March 30 is more than sufficient in this respect for the EC to follow the necessary adoption processes.

IQ: What element of the post-crisis financial reforms has been most important, in your opinion, and what, if anything, do you think regulators could have done differently with hindsight?

PP: We were offered a unique 'opportunity' – for want of a better word – to take a long hard holistic look at the regulation of our entire financial system, ranging from banking to insurance to financial markets. In the field of financial markets, it's important to remember that until half a decade ago, nobody had a fully fledged regulatory system in place for over-the-counter derivatives.

There has been a history of failed attempts to regulate this sector because priorities either focused on other issues, or it was difficult to make a convincing case, or opposing interests played a part. I'm convinced that our financial system is now safer and stronger.

There is an additional €2 billion of collateral in the system. Our rules and supervision have closed gaps that we missed before the crisis. We are still working through the implementation of parts of our regulatory reform, and I'm sure that issues will continue to float to the surface as possible unintended consequences come to light. But that's the nature of regulation: static words in legal texts are sometimes difficult to reconcile with market dynamics. The key thing is to be able and willing to change and adapt the rules where necessary. There is no disgrace in admitting that you might have got it wrong: it's better to be right than to be consistent.

"Static words in legal texts are sometimes difficult to reconcile with market dynamics. The key thing is to be able and willing to change and adapt the rules where necessary. There is no disgrace in admitting that you might have got it wrong: it's better to be right than to be consistent"

IQ: A key rationale for the EMIR review was to reduce disproportionate costs and burdens on certain derivatives counterparties, particularly non-financial corporates. Do you think the proposal achieves this? What are the most important changes in this context?

PP: This is a good example of being open to adapt and improve financial regulation to bring it in line with market practices and developments. It takes some courage to analyse and revise a fundamental cornerstone of market regulation only two years after its implementation. We received too many signals and questions from the addressees of EU rules to ignore, and put in hand an ambitious process to categorise the most important inefficiencies and unintended consequences of EMIR.

The industry played a key part in that process. We are in the final stage of adopting a revision of that legislation that will recalibrate the definition of small corporates and redefine small financial companies to reduce clearing and reporting burdens. In addition, we will be removing backloading reporting rules, streamlining intragroup transaction reporting if corporates are involved, and harmonising reporting rules and trade repository requirements to ensure data quality.

I believe the investment in time and resources will be worth the end result, and would recommend any regulator to regularly review the relevance and impact of their rules. Maybe it should even be a requirement.

IQ: When do you think discussions on the CCP recovery and resolution legislative proposal will reopen, and how will these discussions likely be framed in light of Brexit and the EMIR 2.2 text?

PP: The EC's legislative proposal has been on the table for two years, and we are looking for a speedy adoption by the council and the parliament. I can't identify any major fault lines between the European institutions. It has a solid basis: EMIR and the EU's Bank Recovery and Resolution Directive. Its objective for CCPs to plan ahead is shared, and it will enable us to meet G-20 commitments in this area.

The regulatory approach is pretty balanced – recovery planning is a CCP responsibility that should reflect its structure and business, but subject to regulators' review and agreement. Recovery tools are neither prescribed nor excluded and cover auctions, forced allocation, (partial) tear up, cash calls and gains-based haircuts. CCPs need to develop indicators for entry into recovery and there cannot be a single pre-defined trigger.

But the authorities will be allowed to intervene early and trigger recovery or require a CCP not to apply a certain recovery tool if this would be detrimental to financial stability. Importantly, the proposal does not seek an increase in CCP capital, nor does it propose to introduce a new resolution fund, as a double duvet of funds is already available with a clearing house's default fund and the resolution fund for bank clearing members.

The key reason for delay in adopting this sensible proposal has been sequencing. We needed to finalise the EMIR 2.2 proposal and agree on the powers of ESMA first, before adopting any rules on recovery and resolution that might need to reflect any new powers.

The incoming Romanian presidency of the council has already indicated it will be looking for progress on the proposal during the first half of 2019. The proposal should be able to progress relatively unhindered by the UK's departure from the EU as it is a self-standing legislative approach. IQ

A Question of Time

A newly convened European working group made rapid progress last year in selecting ESTER as the euro-denominated risk-free interest rate benchmark, but without an extension to the EU Benchmarks Regulation, there may be insufficient time for adoption

When considering benchmark reform, much attention has been paid to the UK Financial Conduct Authority's declaration that it will no longer compel or persuade banks to submit to LIBOR after the end of 2021. That is still three years away, but the deadline has crystallised the reality that LIBOR's days may be numbered, accelerating the adoption of new risk-free rates in order to avoid market disruption.

In Europe, however, there is much less time available to complete benchmark reform efforts as a result of the European Union (EU) Benchmarks Regulation (BMR). The BMR came into force in January 2018, and prohibits the publication or use of non-compliant benchmarks in the EU. For pre-existing benchmarks, there is a two-year transition period before these prohibitions come into effect. When that transition period ends on December 31, 2019 – less than a year from now – widely used European and third-country benchmarks could become prohibited or even cease to exist.

The challenge is compounded by the fact that the new risk-free – the euro short-term rate (ESTER) – may not be published until October 2019, leaving just a few months for adoption. Given the need to build liquidity, products, clearing services and infrastructure to support any new benchmark before it can be widely used, the current timescale increases the risk of market disruption.

"The European efforts on benchmark reform took longer to begin than other jurisdictions and while the involvement of the public sector last year helped to drive the selection of ESTER, the production of the new rate will come late in the day relative to the BMR deadline. This late start and early end equates to a very short transition period of just a few months, which would be insufficient time for ESTER to become a commonly used rate," says Eric Litvack, chairman of ISDA.

EONIA and EURIBOR

Up until fairly recently, European benchmark users might have had cause to be optimistic

"The European efforts on benchmark reform took longer to begin than other jurisdictions and while the involvement of the public sector last year helped to drive the selection of ESTER, the production of the new rate will come late in the day relative to the BMR deadline"

Eric Litvack, ISDA

that relatively little would actually change under the BMR with respect to EURIBOR and EONIA, Europe's most systemically critical benchmarks. Early indications suggested reforms of these widely used euro-denominated interest rate benchmarks would bring them into line with the regulation, thereby preserving the status quo.

In codifying and expanding upon the globally agreed principles for financial benchmarks issued by the International Organization of Securities Commissions (IOSCO) in 2013, the BMR sets stringent requirements to improve the robustness, quality, governance and controls around benchmarks. The European Money Markets Institute (EMMI), which acts as administrator for EURIBOR and EONIA, had looked set to reform both to ensure compliance with the BMR.

"Historically, Europe appeared to be in a fairly strong position, as it was thought EURIBOR could be reformed to become purely transaction-based. There was also an overnight risk-free rate, EONIA, which was already up and running, so there might not have been a need to find a new rate," says Rick Sandilands, senior counsel for Europe at ISDA.

However, in February 2018, after extensive analysis and consultation, EMMI concluded that it could not warrant EONIA's compliance with the BMR, leaving market participants with less than two years to identify and transition to an alternative rate. While EMMI has continued to pursue reform of EURIBOR, it is now clear that the BMR will necessitate a much greater degree of change than some had anticipated.

Initial efforts to reform EURIBOR into a transaction-based rate were unsuccessful, but EMMI has subsequently led the development of a hybrid methodology for EURIBOR that uses transaction data where available and allows other inputs such as expert judgement if transaction data is unavailable.

This might ultimately be sufficient to ensure EURIBOR's compliance with the BMR, and announcements from EMMI following consideration of data from its testing phase indicate a high level of confidence that the benchmark will comply. However, market participants remain concerned over whether the rate is sustainable given the illiquidity of the market it seeks to measure and panel banks' continued reluctance to contribute based on expert judgement. The impending prohibition of the current iteration of EONIA, alongside the need to identify a robust fallback for EURIBOR, gave efforts to identify an alternative risk-free rate a greater sense of urgency.

> "Like most of the other risk-free rates, ESTER will be based entirely on transactions, in line with the IOSCO principles, and it is also seen to be positive that it will be produced by a public administrator, the ECB"
>
> **Ann Battle, ISDA**

Closing in on ESTER

A working group on euro risk-free rates, with participation from 21 credit institutions as voting members and several industry bodies including ISDA as non-voting members, was convened in February 2018. At that point, the group was already some way behind benchmark reform efforts in other jurisdictions, but with the support of the European Central Bank (ECB), which provides the secretariat for the working group, it moved at pace to identify three possible risk-free rates that were put out to the market for consultation in June 2018.

In September 2018, the group recommended that ESTER should replace EONIA as the new euro risk-free rate. Its selection represents a major step forward in the European benchmark reform effort.

"Like most of the other risk-free rates, ESTER will be based entirely on transactions, in line with the IOSCO principles, and it is also seen to be positive that it will be produced by a public administrator, the ECB. Most importantly, ESTER will not rely on the judgements of panel banks, which is a big issue that was identified with LIBOR, EURIBOR and EONIA," says Ann Battle, assistant general counsel at ISDA.

As a public institution, the ECB itself will not be subject to BMR requirements, but ESTER will be a critical benchmark under the new regime in all practical respects. With EONIA set to fade away after the regulation comes into full force, ESTER will become a widely used reference rate for market participants across Europe.

"ESTER will undoubtedly be more robust than EONIA, which has been suffering from a diminishing pool of contributors and has become less sustainable as a result," says Litvack. "ESTER represents a major step forward in terms of depth and breadth of participation and the robustness of its governance, which gives much greater confidence in its being a durable overnight reference rate."

Timing constraints

While the progress in selecting ESTER is to be welcomed, the rate is not yet published, and may not become available until October 2019. Given the concerns about the robustness of EONIA and EURIBOR, market participants will be incentivised to make every effort to prepare in advance, but there is only so much that can be done before the rate becomes available.

"We intend to push the start button at the latest by October 2019," said Vladimir Tsonchev, expert in the money market and liquidity division of the directorate general market operations, ECB, speaking →

> "Practical shortcomings and timing issues associated with the qualification process for third-country benchmarks means many of these benchmarks are at risk of being prohibited from 2020, which will put European investors and companies at a very significant competitive disadvantage"

Rick Sandilands, ISDA

→ at the ISDA regional conference in London in September 2018.

"Right now, we are working on developing the technical infrastructure for the production of the rate, which will be based on statistical data collection we have in-house, so this is not trivial to build and develop," Tsonchev explained. "Then, we are working also on processes, procedures and governance, which we want to make consistent with the IOSCO principles and this is also a big task of its own. Finally, we want to test both infrastructures and procedures, and this takes time."

While such rigorous preparation for the publication of a new reference rate is entirely to be expected, and the ECB is clearly doing what it can to ensure ESTER becomes available as soon as possible, it has become increasingly clear that a three-month window will not be sufficient to allow the industry to adopt the new rate before the BMR comes into full force.

A brief glance at the reference rate reform process in the US highlights the complexities. While the Secured Overnight Financing Rate (SOFR), the new alternative risk-free rate for the US dollar, was identified some time ago, adoption is occurring over an extended period of time, as central counterparties (CCPs) switch to using SOFR for price alignment interest and discounting purposes, exchanges launch products linked to the new rates, CCPs begin to clear them and, crucially, the market begins to understand them.

"The challenges really are around the normal operational processes that market participants have to go through to start trading any new product," said Nick Saggers, managing director and business support executive at Bank of America Merrill Lynch, also speaking at the ISDA regional conference in London.

Extension request

Recognising these challenges, and the fact that the publication of ESTER cannot be accelerated beyond current expectations, the working group on euro risk-free rates published a high-level implementation plan in September 2018, requesting an extension to the BMR transition period of at least two years.

This would align the ESTER transition with that of SONIA in the UK and SOFR in the US, allowing the requisite time to build liquidity in the underlying market, establish market infrastructure, and create new products referencing ESTER before use of EONIA is prohibited.

The implementation plan also makes the important point that extending the current timescales would allow sufficient time for the creation of an ESTER-based term structure that could be used as an alternative to EURIBOR where appropriate.

"Extending the BMR transition period by two years would not only have the advantage of allowing time for a proper transition to ESTER, but it would also align the BMR with the broader benchmark transition timetable. During this time, there should be clarity on whether reformed EURIBOR will be BMR compliant and sustainable, and so whether market participants will be able to use EURIBOR alongside ESTER," says Litvack.

There are signs an extension may be granted, as both the Council of the European Union and the European Parliament, through its Committee on Economic and Monetary Affairs, have proposed amendments that would extend the transition period for critical benchmarks until the end of 2021. However, these amendments would still need to be agreed in trilogue with the European Commission for the extension to materialise.

In addition, the working group launched two consultations in December – one on the proposed transition path from EONIA to ESTER, and one on ESTER-based term structure methodologies. In the former, the working group has proposed that the methodology for EONIA be amended so it is calculated as a spread over ESTER. Under this proposal, EMMI would engage with the relevant authorities to ensure the evolved EONIA methodology complies with the BMR, and it would be available for a limited period after the end of the BMR transition period – the group recommends the end of 2021. Both consultations are open until February 1, 2019.

Non-critical benchmarks

The case for an extension to the existing BMR timetable was further reinforced in a detailed letter from four industry associations, including ISDA, in November 2018. Unlike the implementation plan, this industry letter addresses the need for an extended transition period in respect of both critical and non-critical benchmarks across all asset classes, including interest rates, equity indices, FX and commodities.

While the arguments relating to critical benchmarks broadly echo those already made by the working group, the letter explains that European investors currently use benchmarks provided by non-EU administrators for a wide variety of purposes, including hedging current exposures, making investments, repatriating money from abroad and managing day-to-day operations.

There are approximately 3.7 million benchmarks in use globally today, according to a survey conducted last year by the Index Industry Association, but it is not clear how many of those are used in the EU, or how many now qualify for use under the BMR. As of today, none appear in the register of approved benchmarks maintained by the European Securities and Markets Authority. Just as for critical benchmarks, an insufficient transition period for non-critical benchmarks could risk market disruption.

While the issue stands to impact benchmarks from many different jurisdictions, the industry letter uses India as an example. It cites European Commission data showing that the EU is India's number one trading partner, with €37.8 billion of EU exports and €39.3 billion of EU imports in 2016, €28.1 billion of trade in services in 2015 and €51.2 billion of EU investment in Indian stocks in 2015.

"There is uncertainty about whether India's core interest rate, FX, equity and commodity rates will qualify for use in derivatives and other products in the EU prior to the scheduled end of the transition period. Without them, we are concerned that it might become significantly more difficult, and in some cases impossible, for EU investors to invest in assets denominated in rupees, risk manage their existing exposures or repatriate funds," says Sandilands.

The problem is not confined to India, however. EU investors will not know which of the third-country benchmarks they currently rely on are likely to be prohibited from use by supervised entities until very late in the day. This means they have no opportunity to reduce their exposures ahead of time. The nature of these benchmarks means that, in many cases, there are unlikely to be compliant versions available to switch to. Meanwhile, their non-European counterparts will be free to continue using the prohibited benchmarks in their jurisdictions.

The industry letter asks for the same two-year extension to be applied to these non-critical benchmarks, citing concerns that prohibition of a significant number of third-country benchmarks at the same point in time could result in market disruption.

"Practical shortcomings and timing issues associated with the qualification process for third-country benchmarks means many of these benchmarks are at risk of being prohibited from 2020, which will put European investors and companies at a very significant competitive disadvantage compared to third-country investors. Worse, they will find it harder, if not impossible, to manage their exposures using these benchmarks, putting them at risk of unmitigated losses," says Sandilands. IQ

ISDA PUBLISHES BENCHMARKS SUPPLEMENT AND PROTOCOL

ISDA has published the ISDA Benchmarks Supplement, which gives firms the ability to improve the contractual robustness of derivatives that reference interest rate, FX, equity and commodities benchmarks.

The ISDA Benchmarks Supplement has been developed in response to the European Union (EU) Benchmarks Regulation (BMR), which regulates the use of a wide variety of benchmarks across different asset classes. The BMR requires contracts between supervised entities and their clients to set out the actions they would take if a referenced benchmark is materially changed, ceases to be provided or is prohibited from use.

The ISDA Benchmarks Supplement also responds to the International Organization of Securities Commissions' Statement on Matters to Consider in the Use of Financial Benchmarks, which recommends that parties implement similar plans for a cessation or material change to a benchmark.

By incorporating the ISDA Benchmarks Supplement into the terms of their interest rate, FX, equity and commodity derivatives, market participants will be able to ensure these events are taken into account in their contracts and specify the fallback arrangements that would apply.

The ISDA Benchmarks Supplement covers a much broader range of benchmarks than ISDA's work to implement robust fallbacks to specific rates for certain interbank offered rates (IBORs), which is being undertaken at the request of the Financial Stability Board's Official Sector Steering Group.

While two separate initiatives, the ISDA Benchmarks Supplement complements the work on IBOR fallbacks, as it enables firms to agree interim fallback arrangements should an IBOR cease to exist before the IBOR fallbacks are implemented. The IBOR fallbacks will take precedence for specified IBORs once implemented, but the ISDA Benchmarks Supplement will continue to provide an additional layer of protection with respect to index cessation in the event an IBOR fallback fails. It also enables parties to specify primary fallbacks if a benchmark (including an IBOR) is prohibited from use in an outstanding derivatives transaction.

ISDA also published the ISDA 2018 Benchmarks Supplement Protocol in December, which will allow market participants to incorporate the ISDA Benchmarks Supplement into their contracts quickly and efficiently. The protocol supports both a counterparty-by-counterparty and an all-counterparties approach, meaning parties are not obliged to incorporate the ISDA Benchmarks Supplement into transactions with all of their counterparties that adhere to the protocol unless they wish to do so.

Entities that adhere to the protocol are also able to choose whether the ISDA Benchmarks Supplement should only apply to new transactions under existing Master Agreements or whether they also want it to apply to existing transactions. Until both parties elect for it to apply to their legacy transactions, the protocol will only apply to new transactions.

Managing the Brexit Cliff Edge

Given the risk of clearing disruption in the event of a no-deal Brexit, publication of a temporary equivalence determination to allow EU participants to continue clearing at UK CCPs should ensure near-term stability, but a hard Brexit has other potential implications that should be addressed

The imminent exit of the UK from the European Union (EU) in March 2019 has long been a source of uncertainty for derivatives traders. With Brexit edging closer, those uncertainties are only increasing. As **IQ** went to press, it was still unclear whether the withdrawal agreement would be approved, or if the UK would ultimately leave without a deal.

A no-deal Brexit would have serious implications for the derivatives market, with the potential for a disruptive 'cliff edge' change in how EU regulatory requirements are applied that might adversely impact EU 27 and UK firms and their UK and EU 27 clients and counterparties. In particular, there were concerns that UK central counterparties (CCPs) would not be recognised under the European Market Infrastructure Regulation (EMIR) after Brexit, which could lead to significant disruption.

On December 19, the European Commission (EC) adopted an important package of measures including temporary equivalence decisions for UK CCPs and central securities depositories (CSDs). It is hoped equivalence will avoid disruption in clearing, at least in the short term, by providing UK CCPs with confidence that they will continue to be recognised under EMIR in the immediate aftermath of a no-deal Brexit (see box). This is particularly timely, given that CCPs' rulebooks typically require them to provide a minimum notice period to clearing members that have to be 'offboarded'.

Equivalence

The equivalence determinations represent an important development given the potential impact of a no-deal Brexit on CCPs and CSDs. Were UK CCPs to fail to obtain recognition under EMIR at the point of the UK's exit from the EU, EU 27 firms would be unable to remain as clearing members of UK CCPs. Furthermore, EU counterparties in general would not be able to clear derivatives contracts subject to the EMIR clearing obligation at these CCPs.

This, in turn, would have created huge operational challenges as thousands of contracts and related collateral would have had to be relocated to alternative CCPs, giving rise to increased systemic risk, significant costs and distorted competition in global derivatives markets and CCPs, all of which would have impeded the access of EU 27 firms and their clients and counterparties to these markets.

There would also have been significant practical obstacles to EU 27 counterparties migrating existing cleared positions from UK CCPs to EU or recognised third-country CCPs in advance of Brexit. For example, it would be difficult and expensive to find an executing counterparty to enter into offsetting trades to close out existing cleared positions and then another executing counterparty to put on new trades with the alternative CCP.

Recognising the potential for a disruptive hiatus in clearing following Brexit, ISDA joined with a group of European industry associations to explore a

The equivalence determinations represent an important development given the potential impact of a no-deal Brexit on CCPs and CSDs

range of cliff-edge effects of a no-deal Brexit in a paper published on October 9, 2018. The early adoption of equivalence decisions was cited in the paper as one of several mitigating actions that could be taken by EU authorities.

On November 13, the EC issued a communication on Brexit preparations that recognised the financial stability risks that might arise if EU firms' cleared positions with UK CCPs had to be suddenly closed out. Existing equivalence systems provide the appropriate tools to address these financial stability risks, the EC said, and they could be used on a temporary and conditional basis to avoid disruption to clearing services.

The EC encouraged the European Securities and Markets Authority (ESMA) to begin preparing cooperation arrangements with UK supervisors to ensure the exchange of relevant information immediately after Brexit. On November 23, ESMA issued a public statement welcoming the EC communication, and said it would engage with the EC and UK CCPs to carry out the preparatory work necessary to ensure continued access to UK CCPs in a no-deal scenario.

Encouraging as the EC and ESMA statements may have been, however, they were not sufficient to give full certainty that EU 27 clearing members would be able to continue to use UK CCPs in the immediate aftermath of a no-deal Brexit.

On December 7, ISDA, together with the Association for Financial Markets in Europe, the International Capital Market Association and FIA, submitted a joint letter to EC vice-president Valdis Dombrovskis. The letter welcomed both the EC and ESMA statements, but called for outstanding areas of uncertainty to be tackled as quickly as possible.

"In the absence of the further comfort, clarity and legal certainty that is sought in this letter, we remain concerned that UK CCPs may deem it necessary to issue termination notices to their European Economic Area (EEA) members later this month, to ensure that those UK CCPs will not be in breach of EMIR Article 25, which prohibits CCPs that are neither authorised nor recognised from having EEA clearing members," the letter stated. →

While disruption to clearing through UK CCPs has been the greatest source of concern, a no-deal Brexit would have other implications for the derivatives market

→ Relief

The temporary equivalence decisions represent a big step forward. But while the time-limited equivalence determinations should ensure short-term stability in cleared markets in a no-deal scenario, the original concerns could reappear at the expiry of the temporary equivalence period. This is expected to cover the 12 months following the UK's exit, so market participants hope a permanent equivalence regime will be put in place before the temporary arrangement expires.

Similarly, in the event a withdrawal agreement and transition period is agreed by the UK parliament, the same issues will emerge at the end of the transition period unless appropriate steps are taken in advance.

While disruption to clearing through UK CCPs has been the greatest source of concern, a no-deal Brexit would have other implications for the derivatives market as a result of the UK suddenly becoming a third country under EU law. The October 2018 paper recognised a number of distinct groups that might feel the effects, including EU 27 non-financial counterparties that may exceed the clearing threshold under EMIR where they have used exchange-traded derivatives on UK regulated markets; EU 27 entities that will lose their ability to rely on exemptions from clearing and margin requirements for derivatives transactions with UK affiliates; and EU 27 counterparties that will cease to be able to satisfy the EU trading obligation by trading on UK trading venues.

In anticipation of Brexit, UK trade repositories will need to apply to ESMA for recognition under EMIR. EU 27 credit rating agencies will also need to apply to ESMA to endorse UK or third-country credit ratings under the Credit Rating Agencies Regulation, and UK credit rating agencies may need to apply for certification in the EU.

In addition, UK and third-country benchmark administrators will need to apply for inclusion of their benchmarks in the ESMA register for the EU Benchmarks Regulation under the equivalence or recognition regimes, or an EU 27 supervised entity will have to apply to endorse their benchmarks. The recognition of UK trade repositories for reporting purposes under EMIR would also involve the EU and the UK entering into an international agreement on information sharing.

As with clearing, the October 9 paper recommends that ESMA work with relevant trade repositories, credit rating agencies and benchmark administrators ahead of Brexit to facilitate applications for recognition, endorsement or registration in the event of a no-deal Brexit, so any decision can take immediate effect from the date the UK leaves the EU.

A priority should be to avoid any disruptive gap before mitigating actions become effective. For example, it may not be practical, in the time available, for all affected entities to prepare, submit and have approved the necessary applications, even if it is possible to take decisions on those applications in advance of Brexit. The UK government is addressing these issues by creating temporary permissions and recognition regimes to mitigate the impact of these issues in the UK.

In its October paper, ISDA recommended that the EC should, as part of its contingency planning for a no-deal scenario, consider EU legislation adapting EU law in advance of Brexit to create a temporary regime deferring the impacts addressed by these mitigating actions and allowing time for the necessary steps to be taken after Brexit – as occurred for clearing.

The October paper also recommends that the EC, ESMA, the Single Resolution

EC DELIVERS CRITICAL RELIEF ON CLEARING EQUIVALENCE

With 100 days to go until the planned exit of the UK from the European Union, the European Commission (EC) issued a package of 14 measures on December 19 to avoid major disruption in the event of a no-deal Brexit.

While the EC maintains that only a limited number of contingency measures are necessary to safeguard financial stability in the EU 27, it recognises the need to avoid disruption to central clearing of derivatives.

The package includes a temporary and conditional equivalence decision for a fixed period of 12 months, during which the European Securities and Markets Authority will be able to recognise UK-based central counterparties (CCPs), allowing those CCPs to continue serving EU 27 clients.

"The Commission has concluded that EU 27 companies need this time to have in place fully viable alternatives to UK operators," the EC said.

UK REGULATORS PREPARE FOR NO-DEAL SCENARIO

As preparations for a no-deal Brexit scenario intensify, the UK Financial Conduct Authority (FCA) and Prudential Regulation Authority (PRA) have been seeking to determine how the detailed text of multiple regulatory handbooks and technical standards would need to be amended to ensure a fully functioning regulatory regime in the immediate aftermath of Brexit.

The general approach would be to treat the European Economic Area (EEA) countries as third countries after Brexit, onshoring their regulations into UK law where necessary. Detailed consultation papers issued by both agencies in late 2018 explain the technical changes that would need to be made in advance of Brexit.

While these technical changes are a critical part of preparing for Brexit, ISDA believes the general approach of treating the EEA as a third country would lead to cliff edge effects for UK market participants in certain key areas.

For example, UK counterparties would only be able to comply with the mandatory derivatives trading obligation by executing derivatives on an EEA trading venue if the EEA or the relevant EEA jurisdiction has been deemed equivalent. ISDA has called on the FCA to confirm that UK counterparties executing derivatives on EEA trading venues would be considered compliant with the mandatory trading obligation.

In another example, UK firms may apply preferential capital treatment for certain exposures originating from EEA institutions under the Capital Requirements Regulation. This would cease to apply after Brexit unless the EEA or the relevant EEA jurisdiction is determined to be equivalent, meaning UK firms would be subject to higher capital requirements in respect of the relevant exposures.

Further areas of concern also exist where the general principle of suddenly treating the EEA as a third country after Brexit without any equivalence or transitional arrangements would put UK entities at a competitive disadvantage.

ISDA responded to the latest FCA and PRA consultations in December 2018, and further work on these issues is expected in the coming weeks.

Board and EU 27 national competent authorities, in cooperation with UK authorities, take all other actions available to them to eliminate or at least shorten any disruptive gap between Brexit and any mitigating actions becoming effective.

Such actions would alleviate the impact of a no-deal Brexit on the derivatives market, but further issues have been identified that could have an immediate effect on EU 27 firms, and clients and counterparties of UK firms.

First, after Brexit, the transparency and reporting regime under the Markets in Financial Instruments Regulation will cease to apply to instruments that are only traded on UK trading venues. EU 27 investment firms will need to adjust their systems accordingly to avoid over-reporting and adverse client impacts, but it remains unclear when ESMA will update the Financial Instruments Reference Data System, and how it will source data for this purpose.

ESMA should therefore consider developing proposals to manage the transition in such a way that reduces the adverse impact on EU 27 investment firms and their clients and counterparties, in consultation with market participants.

Second, after Brexit, systems governed by UK law designated by UK authorities under the Settlement Finality Directive (SFD) will no longer benefit from the protection from EU 27 insolvency law afforded by the SFD to designated systems. This may affect the ability of EU 27 firms to remain as clearing members of UK CCPs unless they can otherwise demonstrate that the relevant insolvency regime would extend the SFD or equivalent protection to UK CCPs, as non-clearing members currently do.

The ISDA paper recommends that the EC should therefore consider provisions for a temporary designation regime to manage the transition to a new arrangement for third-country systems that allows EU 27 firms to participate in those systems on a sound basis.

Further planning

While the equivalence determinations for CCPs and CSDs represent encouraging progress, other mitigating actions are necessary to avoid firms and their clients and counterparties taking disruptive, risky, costly, potentially irreversible and ultimately unnecessary steps to mitigate the adverse impacts.

The risk of a hiatus after Brexit but before mitigating actions are taken or become effective may itself have a disruptive effect on markets in advance of Brexit. EU authorities should continue to provide early transparency to market participants about further mitigating actions they expect to take and any likely gap before those actions become effective after Brexit so firms and their clients and counterparties can plan accordingly.

Even if the UK and the EU do conclude a withdrawal agreement with a transition period, there is a risk that similar issues would arise at the end of that transition period, thereby only moving the cliff edge out to that later date. However, a transition period would provide more time for the UK and the EU to negotiate and conclude a long-term arrangement that mitigates the impact of these issues. IQ

Further reading

- Paper: *The impact of Brexit on OTC derivatives: Other 'cliff edge' effects under EU law in a 'no deal' scenario*, October 2018 bit.ly/2Leh3eT
- European Commission communication on preparations for Brexit, November 2018 bit.ly/2z8diTu
- Industry associations letter to European Commission on temporary equivalence and recognition for UK CCPs, December 2018 bit.ly/2EsdQba

Constructing Smart Contracts

Smart contracts offer the potential to bring greater automation and efficiency to the derivatives market. But can a derivatives contract ever be fully automated? Will smart contracts take the place of paper contracts? ISDA's Ciarán McGonagle explores the issues

George Bernard Shaw, in extolling the virtues of creative thinking, once declared that some men "see things; and say 'Why?' But I dream things that never were; and I say 'Why not?'" The development of new technologies such as blockchain and smart contracts and their application in the financial markets has created exciting opportunities, allowing us to reimagine the market and to ask, as Shaw did, 'why not?'

Indeed, the use of smart contracts in the derivatives market offers the potential for a fundamental reshaping of derivatives infrastructure, reducing operational risks, streamlining increasingly cumbersome and time-consuming processes, and cutting costs.

However, the efficient, practical and safe application of new technologies to existing operational processes also requires market participants to ask some searching questions. What problems are we trying to solve? What kind of trade-offs do we need to consider? Is technology the answer?

Seeing the world as it exists today and asking 'why?' would therefore seem to be a necessary, if rather more prosaic, task. In the context of smart contracts, it is a question for which lawyers are well placed to respond.

When considering the future development of smart contracts and their application to derivatives documentation, a number of legal issues must first be considered. For example, what contractual terms should be automated? Will these terms be represented in computer code? If so, how can lawyers ever be expected to validate the legal effect of any automated contractual terms?

What is a smart derivatives contract?

In 2017, ISDA and Linklaters jointly published a whitepaper entitled *Smart Contracts and Distributed Ledger – A Legal Perspective*. In exploring the concept of a smart contract, the paper identifies a number of initial semantic challenges – not least, the tendency among lawyers and computer scientists to use similar terminology to communicate distinct concepts.

For example, when lawyers speak about smart contracts, they may be referring to a 'smart legal contract', which envisages a written and legally enforceable contract where certain of the obligations may be represented or written in code. Computer scientists, on the other hand, might interpret the term more narrowly as a piece of 'smart contract code', which is designed to execute a task if a certain, pre-defined condition is met.

The paper notes that these two concepts aren't necessarily contradictory. From a

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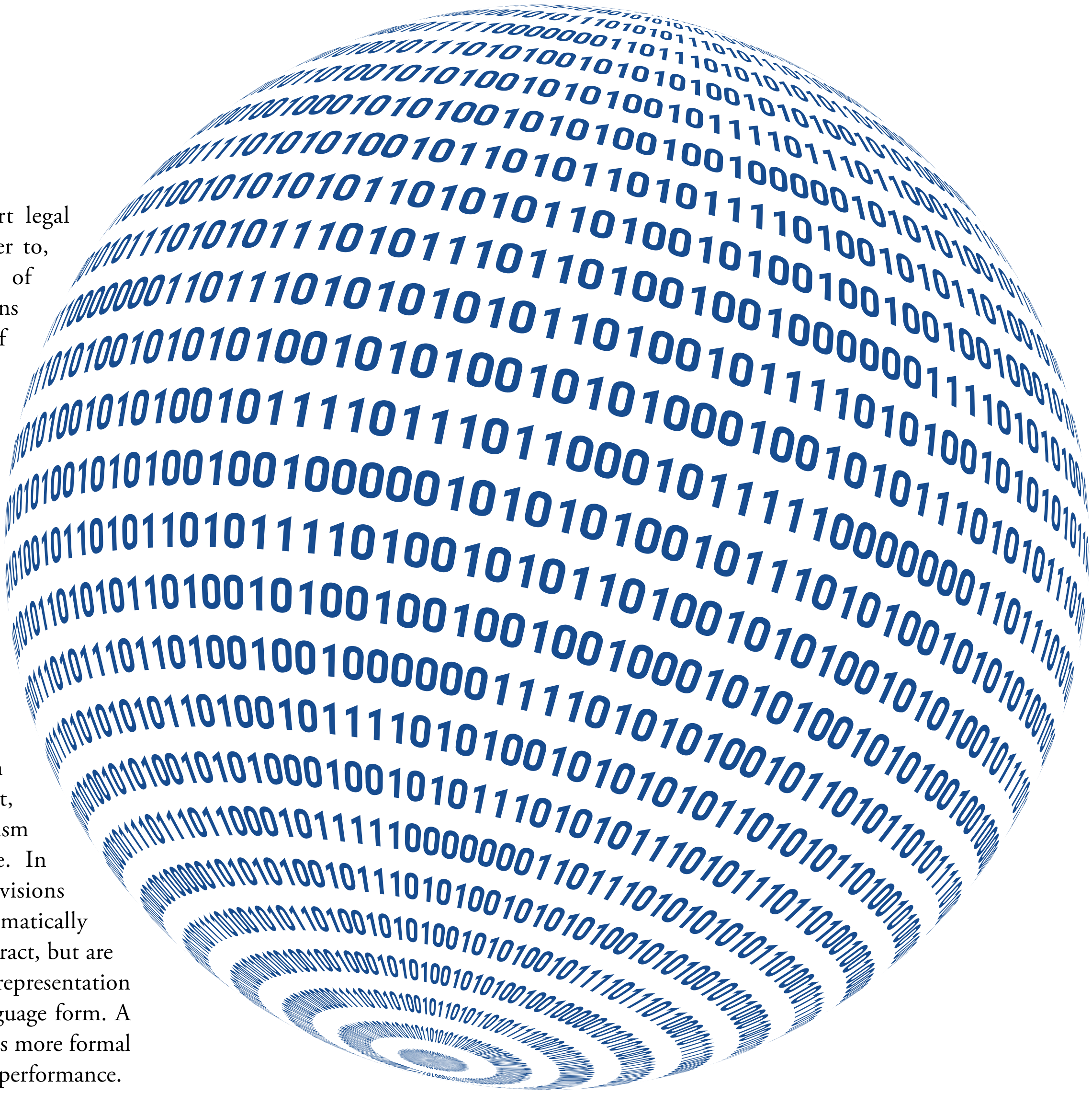


lawyer's perspective, a smart legal contract will necessarily refer to, or incorporate, some form of smart contract code as a means of effecting the automation of certain operative provisions within the contract.

Analysis of the relationship between legal contracts and computer code is helped by a further important distinction. The paper identifies two different potential smart legal contract models: the 'external model' and the 'internal model'.

In the external model, the coded provisions remain outside of the legal contract, and represent only a mechanism for automatic performance. In the internal model, the provisions that can be performed automatically are included in the legal contract, but are rewritten in a more formal representation than the current natural language form. A computer could then take this more formal representation and automate performance.

This paper offers some preliminary thinking about how these new technologies might be applied to ISDA documentation. For example, ISDA definitions could be rewritten in a more formal representation that is readable by computers. Transaction data could be stored on a distributed ledger, with the smart contract elements embedded in, and operating on, that platform. Oracles could also be used to serve as an external data source for making calculations or determinations under the contract.

This application of smart contract technology to the ISDA documentation framework could then allow for the potential development of 'smart derivatives contracts'.

Constructing a smart derivatives contract

In October 2018, ISDA and King & Wood Mallesons jointly published a new whitepaper called *Smart Derivatives Contracts: From Concept to Construction*. This paper goes beyond the initial concepts explored within the legal perspectives paper, and proposes a practical framework for the development and eventual construction of smart derivatives contracts. It does so in the context of the internal model. As the internal model will result in the replacement of natural language provisions with some form of smart contract code, the 'construction' of a new type of contractual framework is likely to be required.

The preliminary analysis identifies the need for smart derivatives contracts to be compatible with each of the various standards that apply to both derivatives and smart contracts. Indeed, the success of ISDA documentation has largely relied on the extent to which it remains consistent with and accurately reflects commercial, legal and regulatory standards that are relevant and applicable to derivatives trading.

The development of smart contract and broader technology standards and their application to derivatives trading will likely require some form of collaboration between market practitioners on how these standards are reflected within the existing ISDA documentation architecture.

Identifying and resolving potential areas of tension among these various standards will be necessary in order to ensure smart derivatives contracts are capable of achieving the same success and ubiquity as the existing suite of ISDA documentation.

Assessing where these tensions might arise is likely to help determine priorities. For example, there may be comparatively little tension between prevailing commercial standards and those that ultimately apply to smart contracts. It might be reasonably assumed that smart contracts will become widely used only where there exists some commercial imperative for that to occur. In this case, the operational efficiencies and potential cost savings associated with their use would seem to provide a sufficient commercial benefit for firms to support and promote their adoption.

From a regulatory perspective, there appears to be little immediate impediment. The regulatory response to the development and use of these new technologies is at a nascent stage, and regulators generally appear to be adopting a wait-and-see approach. This reflects the fact that there is still a lack of agreement at the →

→ industry level on precisely what role these technologies can play in the derivatives market.

It would therefore appear that initial work in this area should focus on how these technologies might supplement, adapt to or even disrupt the current legal and contractual framework underpinning derivatives trading.

This is the starting point for the smart derivatives contracts paper. The paper explores the various possible points of connection between the technological and legal representation of derivatives transactions, and examines the steps that may be required in order to determine which parts of the contract might be successfully automated in future. Here, the paper proposes two guiding principles: contractual clauses should only be considered for automation where they are both effective and efficient.

Effective automation

What do we mean by 'effective' automation? Simply put, if automation is to be considered effective, then it must be capable of achieving the desired or expected result. Automation will only be effective to the extent that automation of the provision is technically possible without disrupting or changing the underlying meaning or intent of the original natural language provision within the contract.

Where automation unexpectedly alters the legal effect of the contract, automation cannot be said to be effective. This is particularly important in the derivatives market, as contracts are often used in connection with each other. For example, one contract may be used to hedge financial exposure created by another. An inability to validate the legal effect of a smart derivatives contract may therefore introduce increased risks.

Given the precise nature of legal drafting, some lawyers might consider this to be an almost insurmountable task. However, considerable thought has been applied to how to determine which parts of a legal contract can be automated.

One approach, explored in the legal perspectives paper, might be to divide a contract into 'operational' and 'non-operational' clauses. In the context of a legal agreement, operational clauses generally embed some form of conditional logic – for example, upon the occurrence of a specified event, or at a specified time, an action is required. Non-operational clauses do not embed such conditional logic, but rather relate to the wider legal relationship between the parties. Examples of non-conditional clauses include those that require parties to exercise discretion in determining whether to take a specific action.

Given their conditional logic, clauses that are primarily operational in nature may be relatively simple to express in a form that would allow for their effective automation. Conversely, non-operational clauses may prove more resistant to automation.

Of course, it is possible that a particular clause may contain both operational and non-operational aspects. As a result, categorising individual clauses within a contract as 'operational' or 'non-operational' may not always be straightforward and will require careful legal analysis.

Once those parts of the contract that are sufficiently operational in nature are identified, automation of these provisions is likely to be effective only to the extent that lawyers are capable of validating the legal effect of the smart contract code.

This in itself may be challenging if it relies on the presumption that lawyers will at some point be required to understand programming languages or that programmers understand legal drafting.

The smart derivatives contracts paper suggests that these challenges could be overcome by following a two-step translation process, involving both lawyers and programmers. First, the legal language could be translated by a lawyer into a more formal, intermediate form. A programmer could then use this translation to convert the language into a programme that a machine could use for automation. The lawyer would be able to verify that the formalised representation is consistent with the legal drafting, while the programmer can confirm that the programme is consistent with the formalised representation.

The smart derivatives contracts paper uses the example of a calculation based on a formula, such as a fixed-rate payer amount in an interest rate swap, to illustrate how this kind of formal representation might be achieved. It is possible to distil this provision into a more formal, logical function: the calculation of a floating rate starts with observation of the rate, followed by a function for its calculation, which results in a derived observation of the floating amount.

The ISDA Common Domain Model (CDM) provides a blueprint for how this kind of shared, formal representation can promote greater efficiency in the derivatives market and create a foundation for the development of smart derivatives contracts.

While this type of logical, process-driven deconstruction of contractual language represents a departure from normal legal drafting, this example demonstrates that many of the features of the economic terms, calculations and performance in the CDM have analogies in the ISDA product-specific documentation.

There are limitations to this approach. The formal representation of the legal language would need to follow a precise

Not all of the provisions of the ISDA documentation that can be effectively represented in automatable form should be automated

The temptation to limit exploration and discussion of these opportunities and their associated challenges to within existing institutional and professional silos should be resisted

logic, using defined variables and functions, and specific language and control structures. Many parts of a derivatives contract cannot be effectively expressed in such a manner and will likely continue to be expressed in natural language form.

Efficient automation

Not all of the provisions of the ISDA documentation that can be effectively represented in automatable form should be automated.

While smart derivatives contracts have the ability to improve the efficiency of the derivatives market by automating the performance of certain events and obligations, the vast number of complex and interdependent permutations that need to be considered in some circumstances – for example, determining when a bankruptcy event of default has occurred (and, more importantly, when it should be triggered) – may mean that it's never efficient or desirable to automate this part of the contract, even if technically possible to do so.

The smart derivatives contracts paper suggests a number of considerations are likely to feed into any determination of whether automation of a particular provision is likely to be efficient.

First, the provisions should be relatively standardised and used in common form by many parties across many contracts. Automated provisions should also not be overly complex or rely heavily on factors that are external to the contract. Finally, it would be useful if there is commonality in the functions being performed by the automated provisions – in other words, they should be capable of being utilised across different derivatives products. This would ensure consistency with the ISDA CDM, which seeks to avoid making functions product-specific where possible.

It is also important to bear in mind that those parts of a derivatives transaction that are automated will ultimately need to work with the legal provisions of the ISDA Master Agreement and associated documentation.

Indeed, one of the main challenges in developing smart derivatives contracts within the existing ISDA documentation framework is the complexity that exists both within and beyond the written legal contract.

While the calculation of a fixed-rate payer amount in an interest rate swap is a good example of the type of provision where automation is likely to be both effective and efficient, other considerations need to be taken into account – for example, the terms of the Master Agreement may impact the quantum, timing and even the obligation to make any payment resulting from the calculation process.

In response to this complexity, the smart derivatives contracts paper recommends some form of mechanism to suspend automatic performance of the contract in situations where real-world events (such as the insolvency of one of the parties) overtake the business-as-usual operation of the transaction.

The paper also identifies the development of a framework for assessing where automation is likely to be both effective and efficient as an important area of further work for ISDA and its members.

In response, ISDA has commenced work on a number of initiatives designed to address some of these legal challenges. The ISDA Clause Library project will create opportunities for efficient automation by developing standard-form clause wording across a range of commonly negotiated contractual terms. A forthcoming legal guide for smart derivatives contracts will also identify areas of complexity within ISDA documentation that should be considered in the context of smart derivatives contracts. These will eventually be supplemented by product-specific guidelines that aim to identify further opportunities for digitisation within the ISDA CDM and, ultimately, automation within a smart derivatives contract template.

Creating this new framework will inevitably require collaboration among multiple stakeholders across different businesses, products and disciplines. The temptation to limit exploration and discussion of these opportunities and their associated challenges to within existing institutional and professional silos should be resisted. Failing to do so risks exacerbating the operational fragmentation and inefficiencies that these technologies are designed to solve.

To quote Shaw once more: "The single biggest problem in communication is the illusion that it has taken place."

Ciarán McGonagle is assistant general counsel at ISDA.


ISDA KING&WOOD MALLESONS

Whitepaper
Smart Derivatives Contracts:
From Concept to Construction

Read the Smart Derivatives Contracts: From Concept to Construction white paper at bit.ly/2QsHnDv

10 Questions with...

Jack Hattem

Jack Hattem, an ISDA board member and managing director, global fixed income, at BlackRock, talks about the role of derivatives markets and the importance of not underestimating the scale of benchmark reform

IQ: Describe a typical day in your role at BlackRock.

Jack Hattem (JH): I am a portfolio manager for our fixed income hedge fund. My focus has always been on interest rates and derivatives and, with that, I also oversee our derivatives alpha platform for fixed income. The early morning train ride allows time to catch up on markets and plan for the day ahead. Days at the office begin with portfolio and market strategy meetings; then it's about managing positions and analysing new ones, meeting with clients, and lots of discussion on markets and market structure.

IQ: What do you like most about your job?

JH: I enjoy the challenge of thinking about markets and identifying opportunities to generate results for our clients. Markets and market conditions can change quickly, and there is a lot to think about on a daily basis. Our approach to investing is collaborative, so I am constantly engaged in discussion with my colleagues and partners. We evaluate the significance of new or perhaps overlooked information and challenge each other on the status quo. I am constantly learning.

IQ: How and why does BlackRock use derivatives for its clients?

JH: Derivatives are an important portfolio management tool used throughout our business. Because our clients' needs are varied, derivatives play varied roles across the platform. I do not view derivatives as purely hedging instruments. Instead, I consider them a flexible, often customisable portfolio management tool, which can help achieve a particular desired outcome. We tend to use derivatives in two primary ways: to express a desired risk within a portfolio, where derivatives can be a more efficient or cost-effective way to replicate a cash exposure; or to hedge, where we use derivatives to offset or isolate a particular risk within a portfolio.

IQ: What are the biggest issues facing the derivatives market at the moment?

JH: There always seems to be a lot going on and we cannot become complacent. Benchmark reform and cross-border equivalence are the two issues that are top of mind. Markets are moving and innovation will continue. Our clients' needs will change also, and derivatives – as I mentioned earlier – are a really important tool we use to help them meet their financial objectives.

IQ: What suggestions would you give to someone just getting started on benchmark reform?

JH: The best piece of advice I'd offer is not to underestimate the scale and scope

"There always seems to be a lot going on and we cannot become complacent. Benchmark reform and cross-border equivalence are the two issues that are top of mind. Markets are moving and innovation will continue"

of it. LIBOR is embedded in so many places throughout the system, not just within the derivatives markets. There is interconnectivity between assets that reference LIBOR across asset classes and currencies. Approaching benchmark reform from that starting point could be overwhelming, but it is an important level-set when assessing exposures and evaluating pathways for the future.

IQ: Will derivatives markets look much different in three years' time?

JH: Three years is a long time in markets, particularly a market like derivatives where there is constant change and innovation. And today's hot topic might not be 'the thing' participants are focused on in the future. Three years from now, we will have much more developed markets in alternative reference rates, and products that reference SOFR will no longer be considered new and emerging. What will not change is the objectives derivatives serve in the marketplace, and we cannot ignore purpose as we innovate.

IQ: How long have you been on the ISDA board – and has it lived up to expectations?

JH: I joined the ISDA board in February 2017, and it has been a great experience so far. I very much believe in ISDA's mission – to create safe, liquid and efficient derivatives markets. There are a lot of issues facing markets and end users right now, and the agenda for ISDA is large. The board is a fantastic group of people who really care about tackling these challenges, and I've enjoyed the increased engagement with the terrific ISDA staff.

IQ: How do you view ISDA's role in the market?

JH: ISDA has an incredibly important role in the system right now. In addition to facilitating derivatives trading and responding to the changing regulatory environment, ISDA is a knowledge hub globally for the derivatives markets. ISDA will continue to play an important education role for end users and all market participants. Given its global focus, ISDA is also going to be an important facilitator to encourage global dialogue and collaboration.

IQ: If you had to cook a meal to impress, what would be your signature dish?

JH: Anything slow-cooked, like braised short ribs, would be my go-to. And if they underwhelm, open more wine!

IQ: What are your hobbies?

JH: I play keyboard in a local Long Island band, Off Peak. We are a group of six and have been playing together for about three years. I've played the piano since I was very young and have come to really appreciate all the years of lessons. A majority of my weekend entertaining, though, is focused on my three kids where I serve as full-time chauffeur and part-time soccer coach. They are unimpressed with my imaginary rock star status. IQ

OFFICE LOCATIONS

NEW YORK
10 East 53rd Street, 9th Floor
New York, NY 10022
Phone: 1 212 901 6000
Fax: 1 212 901 6001
isda@isda.org

LONDON
One Bishops Square
London E1 6AD
United Kingdom
Phone: 44 (0) 20 3808 9700
Fax: 44 (0) 20 3808 9755
isdaeurope@isda.org

HONG KONG
Suite 1602, 16th Floor, China Building
29 Queen's Road Central
Central, Hong Kong
Phone: 852 2200 5900
Fax: 852 2840 0105
isdaap@isda.org

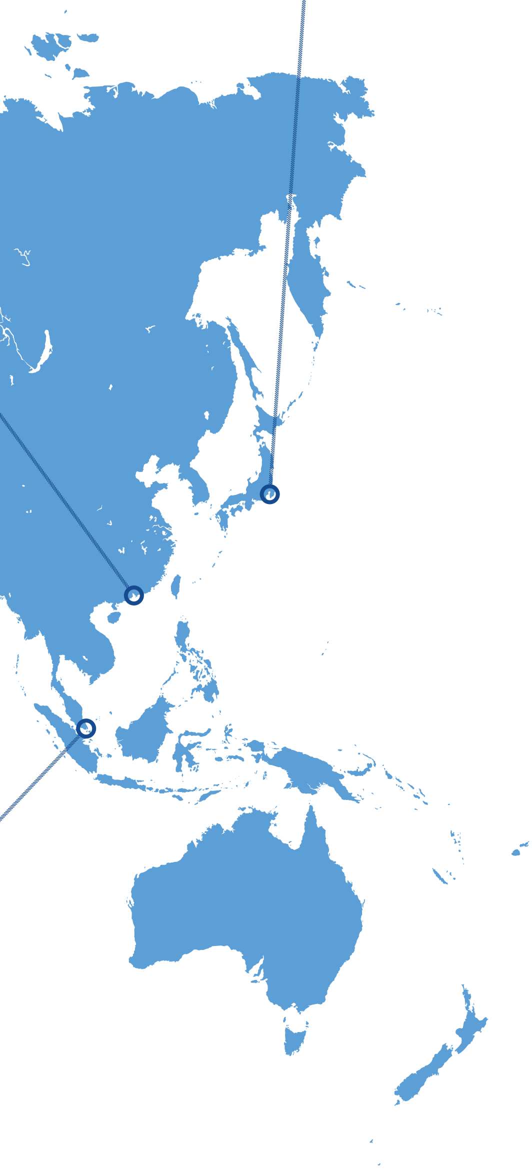
WASHINGTON
600 13th Street, NW, Suite 320
Washington, DC 20005
Phone: 1 202 683 9330
Fax: 1 202 683 9329
isda@isda.org

BRUSSELS
2nd floor, Square de Meeûs 5/6
1000 Brussels
Belgium
Phone: 32 (0) 2 808 8013
isdaeurope@isda.org

SINGAPORE
Marina Bay Financial Centre
Tower 1, Level 11
8 Marina Boulevard
Singapore 018981
Phone: 65 6653 4170
isdaap@isda.org

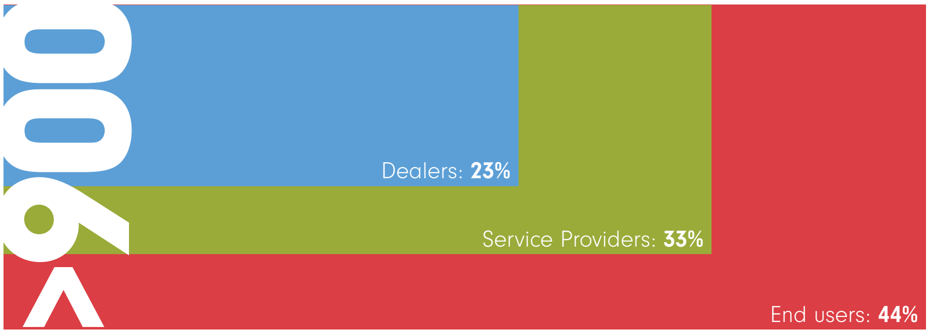
MEMBERSHIP INFORMATION

TOKYO
Otemachi Nomura Building, 21st Floor
2-1-1 Otemachi
Chiyoda-ku, Tokyo 100-0004
Phone: 813 5200 3301
Fax: 813 5200 3302
isdajp@isda.org



ISDA has more than 900 member institutions from 70 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

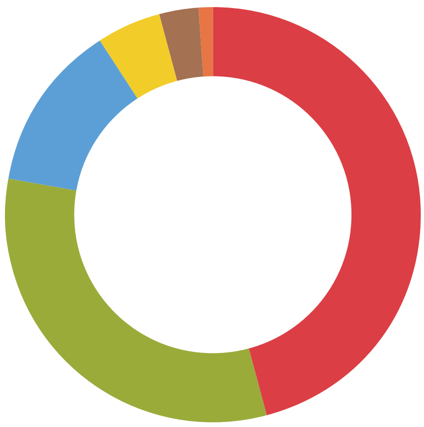


TYPES OF MEMBERS

Banks	31%
Law Firms	22%
Asset Managers	10%
Government Entities	12%
Energy/Commodities Firms	7%
Diversified Financials	5%
Other	13%

GEOGRAPHIC COLLATERALISATION

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



Additional information regarding ISDA's member types and benefits, as well as a complete ISDA membership list, is available on the Association's website:
https://www.isda.org/membership/

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Co-head of Global Rates and Counterparty Portfolio Management
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ISDA Conferences

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Education has been part of ISDA's mission since the Association's inception. With several training courses and symposia held each year, ISDA's highly qualified instructors continue to educate members and non-members globally on topics including legal and documentation, collateral, trading, margin, reporting, risk and capital management, regulation and other related issues. Follow us on Twitter ***@ISDAConferences*** *to be the first to hear about new conference offerings.*

ISDA 34TH ANNUAL GENERAL MEETING

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Contact Rob Saunders, Business Development Manager, ISDA
+44 (0) 20 3808 9727 | rsaunders@isda.org

MISSION STATEMENT

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

STRATEGY STATEMENT

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.

THE PREEMINENT VOICE OF THE GLOBAL DERIVATIVES MARKETPLACE

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

THE SOURCE FOR GLOBAL INDUSTRY STANDARDS IN DOCUMENTATION

Developing standardized documentation globally to promote legal certainty and maximize risk reduction

A STRONG PROPONENT FOR A SAFE, EFFICIENT MARKET INFRASTRUCTURE FOR DERIVATIVES TRADING, CLEARING AND REPORTING

Advancing practices related to trading, clearing, reporting and processing of transactions in order to enhance the safety, liquidity and transparency of global derivatives markets

www.isda.org

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"The current system of equivalence provides us with all the necessary tools to act quickly to avoid any disruption in central clearing and market infrastructure access if the UK were to leave the EU without an agreement"

Patrick Pearson, head of financial market infrastructure and derivatives, European Commission