INTERVIEW
The EC's Jennifer Robertson on post-trade regulations

DODD-FRANK
The SEC's Hester Peirce on security-based swap rules

ESG
Developing a voluntary carbon market

IQ

ISDA® Quarterly

Vol 7, Issue 2: July 2021 | www.isda.org

* DIGITAL TARGET

A number of initiatives are under way to digitise derivatives documentation, enabling the industry to move towards a fully automated operating environment

ISDA SwapsInfo

ISDA SwapsInfo brings greater transparency to the over-the-counter (OTC) derivatives markets. It transforms publicly available data on OTC derivatives trading volumes and exposures into information that is easy to chart, analyze and download. ISDA SwapsInfo covers interest rate derivatives (IRD) and credit derivatives markets.

Interest Rate Derivatives

Transaction Data

Daily, weekly and quarterly traded notional and trade count by product taxonomy.

Notional Outstanding

Notional of all IRD contracts outstanding on the reporting date.

Credit Derivatives

Transaction Data

Daily, weekly and quarterly traded notional and trade count by product taxonomy.

Market Risk Activity

Traded notional and trade count for single-name and index credit default swaps (CDS) that result in a change in market risk position.

Notional Outstanding

Gross and net notional outstanding and trade count for single-name and index CDS.

SwapsInfo.org

ISDA® Safe, Efficient Markets

Going Virtual

This year's ISDA Annual General Meeting (AGM) in May was yet another reminder, if any was needed, of the fundamental changes in working practices that have occurred over the past 16 months. As our first ever fully virtual AGM, it was symptomatic of the broader, industry-wide shift to remote working and reliance on technology since the pandemic.

Of course, technology has always been widely employed in derivatives markets, but the virus has acted as a further catalyst to rethink how derivatives processes can be further automated. This includes use of derivatives documentation, which continues to be overwhelmingly reliant on paper and PDFs.

This issue of **IQ** explores the steps the industry has taken to change this and the efficiencies it will bring. ISDA last month took a big step towards a digital future for derivatives documentation with the publication of the first electronic interest rate derivatives definitions – a development that will make it much easier for firms to interact with the definitions and determine the terms of their trades (see page 10).

This is just the latest in a series of initiatives to further standardise and digitise the derivatives markets. Earlier this year, ISDA added the ISDA Master Agreement to the ISDA Create online documentation negotiation platform, bringing greater efficiency, transparency and automation to the negotiation process and enabling firms to electronically capture key legal data (see pages 12-15). We're also working to bring the benefits of automation to regulatory reporting through our digital regulatory reporting pilots (see pages 22-23).

There is one area, though, where we hope the shift to digitisation *isn't* here to stay. As much as we enjoyed this year's virtual AGM, we are optimistic that we'll be able to welcome all our members in person at next year's AGM in Madrid.

Nick Sawyer
Global Head of Communications & Strategy
ISDA

ISDA Safe, Efficient Markets
International Swaps and Derivatives Association | www.isda.org
NEW YORK | WASHINGTON | LONDON | BRUSSELS | HONG KONG | SINGAPORE | TOKYO

Global 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

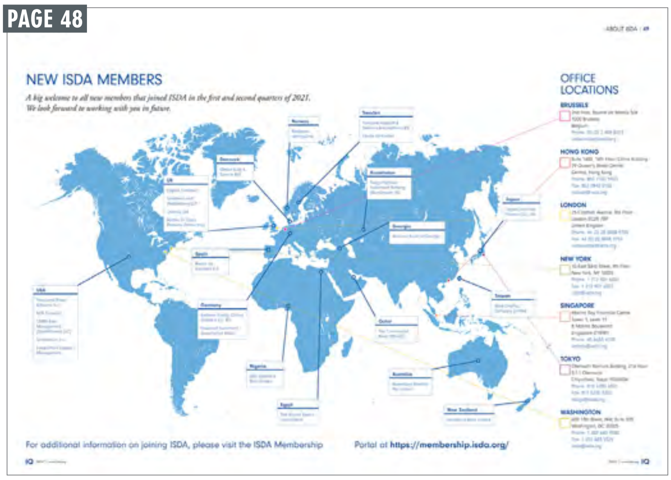
IQ: ISDA Quarterly is an official publication of ISDA. Statements of fact and opinion expressed are not intended as endorsements.

CONTENTS

REGULARS

PAGE 34

PAGE 48

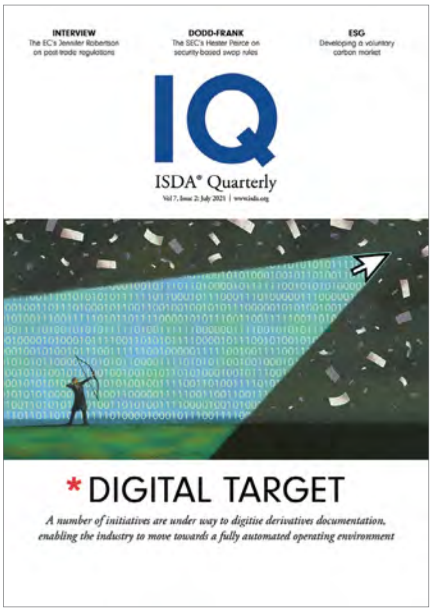


ALSO IN THIS ISSUE

Volume 7, Issue 2: July 2021

THE COVER PACKAGE

DIGITAL TARGET




PAGE 16

"Soon, almost all derivatives and much other business will be undertaken by the use of electronic documentation, electronic signatures, smart legal contracts and on-chain records"

Sir Geoffrey Vos, Master of the Rolls

Realising a Digital Future

Publication of the ISDA 2021 Interest Rate Derivatives Definitions is another important step on the path towards a digital derivatives market, writes ***Scott O'Malia***

At ISDA, we've made no secret of the fact that we think the future of derivatives markets is digital. As firms look to increase efficiencies and reduce costs, greater standardisation and automation will be fundamental. But while some processes and practices already rely heavily on technology, other parts of the business have found it harder to shrug off the old way of doing things. That includes the legal documents and definitions that underpin this market, which remain heavily reliant on paper.

We've now taken a big step towards changing that with the publication in June of our first natively digital definitions on a new documentation platform, MyLibrary. This will deliver tangible benefits for firms from day one, and will bring the process of dealing with legal documents well and truly into the digital age.

"The pandemic showed that we can do without paper and physical files, but we must continue the push towards a robust, fully digital financial system"

Think about how the process of maintaining the definitions and keeping them up to date has worked up until now. Each time a revision is necessary, usually because of changes in regulation or market convention, ISDA has had to publish a new supplement in PDF form. Since the last definitional booklet was drawn up in 2006, we've published more than 75 of those supplements, making it incredibly difficult to determine the terms of a trade – firms would need to wade through the original booklet plus all the supplements published up until that point.

That process will now become much easier. For a start, the 2021 Definitions incorporate all existing provisions into a single electronic booklet. Rather than start layering on new supplements when future updates are needed, ISDA will simply republish a revised electronic version of the definitions in full on the MyLibrary platform. This means users will be able to easily retrieve a single, golden-source version of the definitions that existed at the time their trade was agreed, as opposed to manually compiling multiple documents in paper or PDF form.

What's more, the enhanced search functionality of the MyLibrary platform means firms will be able to quickly drill down to key clauses, while comparability tools will enable users to compare future versions of the definitions with marked-up changes.

We recognise preparing for these and other changes introduced by the 2021 Definitions – including revisions to the cash settlement provisions and the role of calculation agents – will involve time and effort by institutions. We're fully focused on doing what we can to make that process as painless as possible ahead of the October 2/3 implementation date, including through events, user guides and other resources.

But the trend to greater digitisation is here to stay. In fact, ISDA will stop publishing additional supplements to the 2006 Definitions after October 2/3. We've also made the 2002 ISDA Master Agreement available in electronic form on MyLibrary, and other ISDA documents will follow over time.

This is far from our only digital initiative. Earlier this year, we added the ISDA Master Agreement to ISDA Create, extending the list of documents available for online negotiation and execution. As well as bringing greater efficiency, transparency and automation to the negotiation process, ISDA Create enables legal data from these documents to be digitally captured, processed and stored – a big efficiency driver for firms.

We're also bringing digitisation to bear on the thorny issue of regulatory reporting. Identified as one of the key Group-of-20 reforms in 2009, trade reporting has been plagued by a lack of consistency and poor data quality.

To solve this problem, we need common standards that enable firms to interpret and implement reporting requirements in the same way – and our digital regulatory reporting initiative does just that. As part of this project, we are working to convert reporting rules into machine-readable and executable code within ISDA's Common Domain Model, enabling the requirements to be implemented more accurately, consistently and efficiently.

The pandemic showed that we can do without paper and physical files, but we must continue the push towards a robust, fully digital financial system – and the efficiencies and cost savings that will bring. Initiatives like these are critical steps on that journey.

Scott O'Malia
ISDA Chief Executive Officer

Industry Squares Up to IM Phase Five September Deadline

After a one-year delay due to the coronavirus pandemic, the derivatives market is preparing for phase five of the initial margin (IM) requirements for non-cleared transactions, which will take effect on September 1. This stage is expected to capture a much wider spectrum of firms compared to earlier phases, creating additional complexity in the compliance process.

Phase five applies to entities with an average aggregate notional amount of non-cleared derivatives greater than €50 billion, with the threshold falling to €8 billion with the phase-six deadline in September 2022. According to analysis by ISDA in 2018, roughly 314 entities will be caught by phase five this year and a further 775 by phase six in 2022. This means far more firms will come into scope at once than during the first four phases, which captured between six and 20 entities at a time.

"I wouldn't minimise the challenges faced by firms in the first four phases, but phases five and six are different because the case for margining in risk-reduction terms may be a less compelling justification for the implementation burden for these smaller firms. I'm not convinced that counterparties at the fringes of phase six present sufficient risk to justify the IM requirement, but it needs to be possible for those firms to be quickly onboarded, because small counterparties can very rapidly become large counterparties," says Eric Litvack, chairman of ISDA.

Speaking on a panel at the ISDA Annual General Meeting on May 11, Wayne Forsythe, global head of collateral operations at State Street Bank & Trust, said the different types of in-scope firms, including pension schemes, asset managers and insurance companies, have resulted in new challenges that hadn't emerged in the earlier phases.

"What this means is that you have a different set of complexities that have to be taken into account. In many cases, you have a wide array and use of sub-advisers, meaning that you don't have a concentrated single pool of managed assets. And you could have a variety of underlying documentation," he said.

> "At this point, ISDA expects hundreds of entities to come into scope in phase five"
>
> **Tara Kruse, ISDA**

Speaking on the same panel, Tara McCloskey, managing director, global operations, at MetLife, said several unexpected challenges have emerged with the custody onboarding process, which will take time to resolve. "It's one thing making sure that you complete all the documentation for a custodian that you've chosen," she said. "The other big piece is making sure you complete the [know-your-customer (KYC) process] for the custodian where your counterparty is posting. I think that is a huge lift that a lot of us didn't understand what the requirements are."

As well as completing KYC with custodians, agreeing eligible collateral schedules has also been challenging, with different dealers and custodians setting different requirements with varying levels of granularity, McCloskey added.

"My team has really spent a lot of time on the collateral management side making sure that what we are agreeing on the collateral schedule is actually the full scope of that asset type. It's really created a big bottleneck and caused us to spend a lot of time poring over the collateral schedules," she said.

Given these and other operational and documentation challenges, and the timelines set by custodians for onboarding, phase-five firms would need to be well advanced with their preparations, while phase-six entities should be beginning to put implementation plans in place, panellists said.

"It's not an infinite amount of resources that we have, so the timelines are key with this. We're very focused right now on completion of those firms that we've signed on for phase five. I believe, in most cases, we seem to be very well down the path of that. But, again, even looking ahead to phase six, the nuances we discussed earlier means it's a completely different game. So, time is our friend at this point, but the clock will be ticking and we're trying to get ahead of that as best we can by looking ahead to the next year," said State Street's Forsythe.

ISDA has produced a number of solutions to help the industry with implementation, including the ISDA Standard Initial Margin Model (ISDA SIMM), which was developed to mitigate the potential for disputes over margin calculations, and ISDA Create, which enables the electronic negotiation and execution of IM documentation.

"At this point, ISDA expects hundreds of entities to come into scope in phase five – far more than the number of firms caught by the previous four phases combined. As firms work against the clock to meet this deadline, mutualised industry solutions like the ISDA SIMM and ISDA Create will bring significant efficiencies to their compliance efforts," says Tara Kruse, global head of infrastructure, data and non-cleared margin at ISDA. IQ

Listen to the latest issue of The Swap podcast, which explores phase-five and six implementation issues: bit.ly/3ArIbk3

Stop Using LIBOR and Transition to RFRs, Say AGM Speakers

Market participants must stop using LIBOR and adopt alternative reference rates for all new trades, according to senior market participants and policy-makers who participated in ISDA's 35th Annual General Meeting (AGM), which took place in a fully virtual environment on May 10-12.

The warning came after the UK Financial Conduct Authority (FCA) announced on March 5 that 30 LIBOR settings will either cease publication or become non-representative at the end of this year, while five US dollar tenors will continue publication until June 30, 2023.

"The first thing to underline is that the LIBOR panel is going to end at the end of June 2023 for US dollars. It is not going to be extended. Even if a rate is produced on a synthetic basis for a time-limited period thereafter, it will not be representative after end-June 2023, and of course, it might not be published at all. But even before end-June 2023 – in fact, by the end of this year – the use of US dollar LIBOR, like the other LIBOR currencies, needs to stop in all new contracts," said Edwin Schooling Latter, director of markets and wholesale policy at the FCA.

Liquidity in risk-free rates (RFRs) has improved over the past year, particularly in established rates like SONIA. According to analysis by ISDA and Clarus, 54.9% of total cleared over-the-counter and exchange-traded sterling interest rate derivatives DV01 was linked to SONIA in May, up from 29.8% in May 2020.

However, the proportion is lower in other currencies. Just 6.9% of US dollar interest rate derivatives DV01 was referenced to SOFR in May. Despite this, and despite the emergence of alternative rates with a credit-sensitive component, several AGM speakers forecast that RFRs will see the lion's share of liquidity in the post-LIBOR world.

"As the majority of liquidity, we believe, will still be in SOFR, education becomes very important. So, you have to understand the construction of these alternative indices that involve a credit component – how are they made, what is the appropriate fit? And then what's the liquidity in those products and is there liquidity in derivatives for effective hedging purposes? Once you evaluate all of those, then you can decide what's the most appropriate for your portfolio," said Jack Hattem, managing director, global fixed income, at BlackRock.

Pandemic resilience

The resilience of financial markets at the start of the COVID-19 pandemic was a recurring theme at the AGM. Policy-makers and practitioners concurred that the regulatory reforms implemented after the last financial crisis played a critical role in the smooth functioning of markets during the spike in volatility last year.

'Incoherent' DTO Hits EU Banks' Competitiveness Overseas, Says AMF's Ophèle

An incoherent implementation of the derivatives trading obligation (DTO) has affected the competitiveness of EU banks overseas following the end of the Brexit transition period, a senior European regulator has said.

Speaking at the ISDA Derivatives Trading Forum on June 29, Robert Ophèle, chairman of France's Autorité des Marchés Financiers, explained that the challenge is particularly severe for UK branches of EU banks, which must comply with both the EU and UK DTOs.

Following the end of the Brexit transition period on December 31, 2020, EU entities trading derivatives subject to the EU DTO are required to execute those transactions on an EU or EU-recognised trading venue, while UK firms must trade derivatives subject to the UK DTO on a UK or UK-recognised venue. Without equivalence between EU and UK trading venues, in-scope trades between EU and UK counterparties can only take place on US swap execution facilities (SEFs), which are recognised by both jurisdictions.

"The implementation of the DTO is partly incoherent and inconsistent. It is regrettable that EU counterparties can no longer deal with UK counterparties, even in sterling or dollar, outside of US SEFs because of the overlap between the UK and EU DTO. This mainly penalises branches of EU firms, which happen to be amongst the most active players in these markets. If we want to allow EU companies to be competitive beyond our borders, we need to rethink how the EU DTO should apply to the non-EU business of these branches," said Ophèle.

These dynamics have reshaped the derivatives landscape, with a significant proportion of the market share in euro-denominated interest rate swaps (IRS) shifting from the UK to EU venues and SEFs. According to Ophèle, the market share of EU venues has increased from approximately 6% in mid-2020 to almost 40% in the first quarter of 2021. A portion of trading in sterling IRS has also migrated to SEFs, with

Scott O'Malia hosts an AGM panel with Klaus Löber (ESMA), Wee Ling Phua (MAS), Brian Quintenz (CFTC) and Tajinder Singh (IOSCO)

"We were in a much better starting point with this crisis than we were in the financial crisis of 2008-2009, when we had a sectoral approach to supervision and a lot of blind spots across the board. As a result of the reforms, we now have a holistic approach, which is mutually reinforcing," said Klaus Löber, chair of the CCP supervisory committee at the European Securities and Markets Authority.

The industry is now preparing for the implementation of the final parts of the Basel III reforms, which will include the Fundamental Review of the Trading Book and the revised credit valuation adjustment framework. José Manuel Campa, chairperson of the European Banking Authority, said complete and consistent implementation of the package will be critical.

"This is an area where the credibility of the EU, but also the Basel Committee, is at stake and we consider it of utmost importance that the EU continues to be perceived as a key player in the setting of financial regulations. Keeping our goal to preserve a global level playing field and to avoid regulatory fragmentation should be a key principle as we approach the final implementation of the reform," said Campa.

The AGM also featured discussions on the role of the derivatives market in supporting the global transition to a carbon-neutral economy. Wee Ling Phua, executive director in the markets policy and infrastructure department at the Monetary Authority of Singapore, predicted that the 'new normal' for derivatives markets would be profoundly influenced by climate change.

"The real world will need risk management tools to manage the risks, and derivatives can play a huge part. I think we should really use derivatives markets as a force for good to help us all transition to a more sustainable future," said Phua. IQ

Take at a look at the AGM special editions of IQ in Brief for more AGM coverage: www.isda.org/category/news/iq/

---

the remainder continuing to be traded on UK venues.

For market participants, the choice of trading venue is largely driven by the question of where the deepest liquidity and widest range of counterparties can be found. In the absence of EU/UK trading venue equivalence, US SEFs have become the most attractive venues for certain swaps because firms can interact with a larger pool of participants, said Mario Muth, head of electronic fixed income, platform and listed derivatives sales at Deutsche Bank, speaking on a panel at the event.

"Market participants prefer the marketplace that's open to all market participants – that currently is the US and that's why we've seen the shift. The EU is not open to UK participants; the UK is not open to EU participants; the US is open to all of them and so that's where activity is migrating to," he said.

In his opening remarks at the event, ISDA chief executive Scott O'Malia warned of the stresses that can emerge when unnecessary barriers restrict the ability of firms to tap into the widest possible pool of counterparties.

"For the most part, in-scope trades between EU and UK counterparties can now only take place on US SEFs, which are recognised by both jurisdictions. As a result, SEF trading volumes in euro- and sterling-denominated swaps have jumped this year. However, those firms not willing or able to use SEFs have no choice but to trade only with counterparties on local venues, resulting in fragmented liquidity," said O'Malia. He added that equivalence between EU and UK trading venues is the best way to avoid fragmentation and ensure EU banks can maintain client business on UK venues.

Further disruption and fragmentation may lie ahead as a temporary equivalence decision granted by the European Commission (EC) for UK central counterparties (CCPs) will expire in mid-2022. The EC has stated that the status quo is not an option after this point and has told EU institutions to reduce their exposures to UK clearing houses in the interim.

Speaking at the ISDA Annual General Meeting on May 11, Mairead McGuinness, European commissioner for financial services, financial stability and capital markets union, defended the EC's position on CCP equivalence.

"We have the current situation where a significant amount of risk to the EU financial system is in London, and this is concerning to us as it is simply not sustainable in the long run. The City of London became a hub and indeed was allowed to grow because it was part of the EU single market. All of that has changed since January 1, and in the months and years to come, the EU and UK will chart our own separate courses," said McGuinness. IQ

ISDA Publishes First Digital Definitions

ISDA has published an updated and enhanced version of its landmark definitional booklet for interest rate derivatives, marking a major step in the move towards digital documentation.

The 2021 ISDA Interest Rate Derivatives Definitions are the first ever to be published as a natively digital definitional booklet, and are available via ISDA's new electronic documentation platform, MyLibrary (see below). The digital format will create significant efficiencies in how firms use and interact with the definitions, reducing complexity and the potential for error.

The new definitions consolidate the 75-plus supplements to the previous ISDA 2006 Definitions into a single structure – the main book and a series of matrices – for ease of use. In the future, ISDA will republish a revised digital version of the 2021 Definitions in full each time updates are required, eliminating the need for further supplements. Users will be able to easily access a single golden-source version of the definitions that applied at the time of any trade, as well as compare different versions of the definitions via the MyLibrary platform.

"Interest rate derivatives are the largest segment of the derivatives market, with a gross market value of $11.3 trillion. It's therefore vital that firms are able to easily determine the terms of their trades without having to manually pull together the definitional booklet plus various supplements in paper or PDF form," says Scott O'Malia, chief executive of ISDA.

"Advances in technology mean we can publish the 2021 Definitions digitally, making that process much quicker and more efficient and reducing the potential for error. The financial services industry can't continue to live in a paper-based ecosystem when the rest of the world is moving to a completely digital strategy."

> "The 2021 Definitions are the result of a root-and-branch review of the interest rate definitions and reflect in-depth feedback from both buy and sell side"
>
> **Katherine Tew Darras, ISDA**

As well as the digital format, the 2021 Definitions incorporate several updates to reflect various changes in market practice. For example, the methodology used to determine a cash settlement amount for trades subject to early termination and for swaptions has been replaced to align with current collateral and valuation practices, and certain payment and calculation provisions have been revised to make the definitions more robust in the face of market closures. The calculation agent provisions have also been modified, with the addition of a framework for disputing determinations.

More generally, the 2021 Definitions use formulae instead of legal narrative to describe concepts such as day-count fractions and interpolation, making them easier to consume by machines.

"The 2021 Definitions are the result of a root-and-branch review of the interest rate definitions and reflect in-depth feedback from both buy- and sell-side market participants. The aim was to keep what works in the 2006 Definitions, but to update them where necessary to make them more resilient and in line with current conventions. Combined with the cutting-edge digital functionality, we now have a set of definitions fit for the next 15 years and beyond," says Katherine Tew Darras, general counsel at ISDA.

The 2021 Definitions are scheduled for implementation over the weekend of October 2/3, 2021. Firms can continue to use the 2006 ISDA Definitions, but ISDA will stop updating them following implementation of the 2021 Definitions. IQ

Documentation Goes Digital with MyLibrary

ISDA has launched a new digital documentation platform, MyLibrary, which is aimed at improving the ability of firms to efficiently access and navigate ISDA documents. The platform was developed in conjunction with Kinetix Trading Solutions and Linklaters>Nakhoda, and incorporates a range of user-friendly features, including enhanced navigation and search, comparison tools and bookmarking.

MyLibrary initially includes the new 2021 ISDA Interest Rate Derivatives Definitions and the 2002 ISDA Master Agreement. Other documentation will be available in digital form via the platform over time, in line with ISDA's strategy to facilitate greater automation and efficiency in derivatives markets.

The electronic format of the new platform enables ISDA to revise and update its new documents in full each time an amendment is required, avoiding the need to publish separate supplements. Users can easily view the prevailing version of the document as of any date and can compare different versions in blackline as they are published.

"MyLibrary is a 21st century solution to the publication of ISDA documentation, providing our members with up-to-date digital versions of ISDA's documentation and definitions. Firms will be able to source and reference key documents, terms, legal clauses and definitions via a search-enabled online platform, with the ability to compare different versions of documents side by side. Using the platform means members will always be able to easily construct a full legal representation of a trade consistent with the terms applicable at the time the transaction was executed," says Scott O'Malia, chief executive of ISDA. IQ

THE COVER PACKAGE

Digital Target

With the digitisation of documentation, the derivatives market is moving faster towards a fully digital operating environment

Over the years, parts of the derivatives markets have embraced technology more readily than others. In the front office, trading systems have long been used to bring greater automation, while some post-trade processes have benefited from straight-through processing. However, other areas have lagged behind, maintaining their reliance on manual, paper-based practices. The legal documentation and definitions that form the foundation of this market are a case in point.

That was changing before the pandemic, but the switch to remote working has acted as a catalyst to further standardisation and digitisation. Without access to the usual operating environment, firms had to quickly adapt how they manage their trading documentation without compromising on legal enforceability. Electronic signatures quickly became the norm in jurisdictions where it is permitted, and the case for digital documentation became more widely accepted.

Several recent developments have pushed the market further along this path, including the launch of ISDA's first ever digital definitions – an enhancement that will bring significant efficiencies to derivatives users (see pages 12-15).

Further positive change lies ahead as the derivatives market leverages advanced technologies such as artificial intelligence and distributed ledger. In this issue, market participants, technology providers and industry observers share their expectations for the future (see pages 16-21).

More immediately, a digital strategy is being pursued to deliver major improvements to derivatives reporting rules, which have proved fiendishly difficult to implement in a consistent and accurate way. As regulators revisit reporting requirements, ISDA is using the Common Domain Model to develop a digital regulatory reporting initiative that will enable more effective implementation of these revisions (see pages 22-23). IQ

"If we can get the raw ingredients at the very start of this process standardised and described consistently, then that makes everything further downstream much more consistent"

Angus Moir, Bank of England

*Going Digital

Efforts to digitise derivatives documentation have gathered pace during the pandemic, with opportunities to create efficiencies and reduce costs by negotiating and executing agreements electronically

In 2016, archaeological excavations were undertaken on the site of an old London office block ahead of the construction of Bloomberg's new European headquarters. The excavations uncovered a collection of more than 400 Roman writing tablets, including what is thought to be the very first handwritten legal document in Britain – a loan note dating back nearly 2,000 years. The words, requesting payment of 105 denarii, had been inscribed with a stylus in a layer of beeswax on a thin wooden tablet, preserved for centuries by the wet mud of a river.

Five years on from that discovery, the financial services industry is on the cusp of a digital revolution that might one day make a printed document with hand-written annotations and signatures appear almost as antiquated as a Roman writing tablet. Thanks to advances in technology and the impact of the coronavirus pandemic, fully digitised trading documents are coming within closer reach than ever before.

The experience of remote working during the pandemic has driven market participants to embrace technology as the only means of maintaining business as usual. The use of advanced technologies in financial markets long predates the pandemic, of course, with many parts of the trade lifecycle having moved towards automation over the years. But the sudden switch to remote working in March 2020 threw a spotlight on certain areas that had not advanced as quickly, including documentation. Without access to

"One of the challenges we have faced in the past is that when we have a major regulatory or market change that requires many documents to be amended at once, it has to be done manually and this can be very intensive work"

Emma Patient, HSBC

Illustration: James Fryer

offices, printers and physical files, the need to process documentation electronically suddenly became much more acute.

"The pandemic didn't necessarily create a new drive for digitisation, but it has accelerated movements that were already in place, knocking down any last resistance to adopting new ways of working. Over the past 18 months, there has been no choice but to modernise working practices and rely heavily on digital tools. Technologies that were previously used only in the margins have become mainstream, and the digitisation of documentation is moving much faster," says Eric Litvack, chairman of ISDA.

Digital benefits

Modern derivatives documentation may bear little resemblance to a Roman writing tablet, but the underlying principle of manually documenting a financial transaction has not fundamentally changed over the course of 2,000 years. Parties enter into a financial agreement and the terms and cashflows are detailed in a binding legal document, whether that document is stored on an iPad, laser printed or inscribed in wood.

The complexity of transactions has naturally increased over time, which has led to much longer and more complicated legal agreements. Documentation templates such as the ISDA Master Agreement are available to help establish the standard provisions of a trading relationship, but agreeing bilateral terms often involves multiple rounds of drafting, negotiation and amendment. While this has been the accepted status quo for years, most practitioners recognise the efficiencies and cost savings that could be achieved through digitisation.

"We are certainly moving to a more digital environment for documentation. One of the challenges we have faced in the past is that when we have a major regulatory or market change that requires many documents to be amended at once, it has to be done manually and this can be very intensive work. One of the benefits of digitisation would be to automate the process of making those updates, and an even bigger benefit would be to harness operational straight-through-processing potential," says Emma Patient, senior legal counsel and global head of infrastructure and policy at HSBC.

As regulatory reforms have added new processes and requirements, such as clearing, reporting and posting of initial margin (IM), the burden of documentation has increased. With IM requirements set to expand to hundreds of new entities during the final implementation phases in September 2021 and September 2022, it has long been clear that a more efficient way of negotiating, drafting and executing documentation is needed.

Other changes in market structure have also driven participants to consider the benefits of digitised documentation. In particular, the transition away from LIBOR and the management of Brexit both involve amending documents, which can be complex and challenging if firms do not have effective systems and processes in place.

"Derivatives documentation has multiplied over the past 10 years as a result of regulation. Layer on protocols and amendments for benchmark reform or Brexit and you've got a lot of documents. Yet the processes to create, use and manage these contracts have not kept pace – if anything, they are more complex now," says Paul Kelly,

→

founder of Logical Construct, a contract data management technology provider.

The launch of ISDA Create in 2019 gave derivatives market participants a powerful tool to better manage the growing burden of documentation. Developed by ISDA and Linklaters to support both the evolution of regulatory requirements and normal business activity, ISDA Create allows market participants to produce and agree documentation online, while also capturing, processing and storing legal data.

Earlier this year, ISDA Create expanded to support the ISDA Master Agreement, bringing greater efficiency, transparency and automation to the negotiation process and enabling relationship data to be shared accurately and consistently across an organisation. The ISDA Clause Library was also included, introducing greater standardisation in how firms agree provisions when negotiating an ISDA Master Agreement, which will make contract negotiation more efficient and improve the consistency and accuracy of legal agreement data.

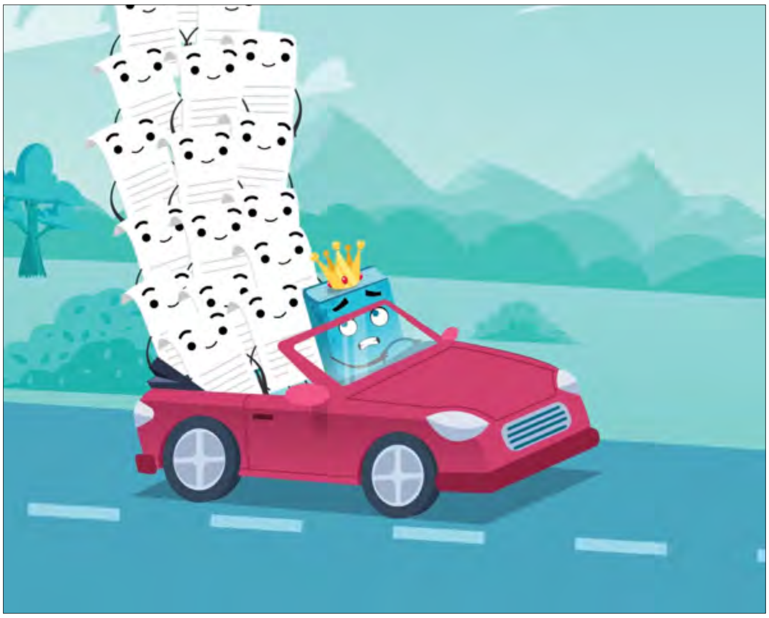
"ISDA Create helps firms overcome the huge operational challenge of conducting bilateral negotiations with hundreds of individual counterparties. The effect has been to increase standardisation, transparency and efficiency, while reducing cost, time and risk," says Scott O'Malia, chief executive of ISDA.

Pandemic momentum

While the path towards digitised documentation was already well advanced at the start of 2020, there is no doubt that the onset of the pandemic served to accelerate momentum. As most of the industry shifted to remote working during a period of very volatile market conditions, it quickly became apparent where working practices needed to change. Email remained for the most part a viable means of exchanging documents, but printing and signing suddenly became much more difficult.

WATCH

an animation on the new ISDA 2021 Interest Rate Derivatives Definitions: bit.ly/3dxkaON



"The pandemic has shown how well large organisations can adapt to remote working – we continued to collaborate and access key systems and documents from home right from the start. Where the dial did move very quickly was in electronic signing, because wet ink signatures were no longer realistic in a remote-working environment, so we moved to e-signatures wherever possible," says HSBC's Patient.

In a situation where the vast majority of market participants were required to be physically distant, certain practices that might have taken years to change occurred over days or weeks. Bringing groups of people together to negotiate, amend and sign documents was suddenly no longer an option, so alternative arrangements had to be made.

However, the extent to which documents can be electronically executed varies by jurisdiction, as some countries require physical witnessing for certain types of documents.

"Electronic signatures aren't just a nice-to-have any more but are actually something that became key to people's ability to carry on business as normal, so we did see a definite uptick in the use of electronic signatures. I think the issue of whether a majority of contracts can be negotiated and executed entirely electronically is still one where you are going to get a different answer depending on the jurisdiction," said Caroline Dawson, partner at Clifford Chance, speaking at ISDA's Annual General Meeting on May 12.

ISDA has now published electronic enforceability opinions, which confirm the enforceability of electronically executed and confirmed contracts, for 51 jurisdictions.

Digital definitions

Given the experience of market participants during the pandemic and the changes that are being made to standard industry practices as a result, it is timely that ISDA recently moved forward with one of its most ambitious digital projects to date – the development of the 2021 ISDA Interest Rate Derivatives Definitions.

Interest rate derivatives represent the largest portion of the derivatives market, with a gross market value of $11.3 trillion, according to the Bank for International Settlements. Since 1987, ISDA's definitions have provided the legal framework for standardised documentation, which has supported the strong growth of this market. For the first time, the 2021 Definitions will be made available in a fully digital format, marking a major step forward in bringing efficiencies to the derivatives market.

"The new definitions are in part the continuation of the ongoing process of updating our standard documentation, but they are also novel in that they will be ISDA's first digitally native definitions. We're making the conditions for leaving paper behind, which is a subtle but major change for the future that will enable the industry to

> "The new definitions are in part the continuation of the ongoing process of updating our standard documentation, but they are also novel in that they will be ISDA's first digitally native definitions"
>
> **Eric Litvack, ISDA**

further streamline processes and reduce costs," says Litvack.

In the past, ISDA's standard definitions have been updated through an effective but increasingly cumbersome process of publishing supplements to account for changes in regulation and market practice. That means institutions would need to compile the definitional booklet plus the relevant supplements in paper or PDF form to determine the terms of their trades.

Since the last set of interest rate derivatives definitions was developed in 2006, ISDA has had to publish 77 supplements, which has made the process of manually assembling the relevant provisions gradually more complex, cumbersome and prone to error. As well as consolidating all those supplements into a single structure, the 2021 Definitions will be digitally republished in full every time future amendments are needed, removing the need for further supplements.

"The feedback we received on the 2006 Definitions shone a light on areas where those definitions had not kept pace with changes in market structure, despite 77 supplements. Those supplements have made the 2006 Definitions extremely unwieldy for market participants, so the electronic format marks a big step forward and the 2021 Definitions will fully reflect current market conventions," says Rick Sandilands, senior counsel, Europe at ISDA.

The digital format is made possible by ISDA's electronic documentation platform, MyLibrary, which aims to improve firms' ability to access, navigate and search ISDA documents. MyLibrary will initially include the ISDA 2021 Definitions and the 2002 ISDA Master Agreement, but other documentation will become available on the platform over time.

The 2021 Definitions will be implemented over the weekend of October 2/3, at which point ISDA will stop updating the 2006 Definitions altogether. In the interim, ISDA is working on several initiatives to support firms with their implementation efforts. These include a series of conferences, educational webinars, publication of a user handbook detailing key changes between the 2006 and 2021 Definitions and the forthcoming launch of suggested operational practices for firms implementing the new definitions.

ISDA is also working on a centralised hub where institutions can stipulate their readiness to use the 2021 Definitions. This will allow institutions to set out the key elections they intend to use in different trade types, alongside their ability to continue offering transactions referencing the 2006 Definitions for a time, in parallel with those referencing the 2021 Definitions.

"The new definitions will require effort and resources to implement, but it is essential that the framework for documenting interest rate derivatives is as efficient as possible, rather than contributing to complexity," says O'Malia.

MORE DETAIL

A handbook detailing key changes between the 2006 and 2021 Definitions is available here: bit.ly/3hnu8mK

Digital journey

In the 2,000 years since the terms of a Roman loan were inscribed in a wooden tablet, financial markets have changed beyond recognition, but the importance of documentation as the legal foundation of financial transactions hasn't changed. While the full digitisation of documents will take time, it's a change that has to come if derivatives markets are to keep pace with the digital age.

The availability of the ISDA Master Agreement on ISDA Create and the publication of the 2021 Definitions mark a major step forward towards a more digital future. In time, parts of the definitions will be made available in open-source code and aligned with the Common Domain Model so information can flow seamlessly through to trading, operational and risk management systems. This will mark a further milestone in the derivatives market's digital journey.

"When you have greater standardisation in documents, it allows you to better capture information and ultimately saves time and cost as there will be no need to trawl through documents. Digitisation initiatives ultimately create the tools that will enable lawyers to do their jobs more efficiently, with accurate, up-to-date information easily accessible," says HSBC's Patient. IQ

* Looking to the Future

From artificial intelligence to distributed ledger and smart contracts, there is no doubt that technology will drive major changes in the derivatives market in the coming years. **IQ** *asked a variety of market participants and observers for their perspective*

Akber Datoo
Chief executive and founder, D2 Legal Technology

The over-the-counter derivatives market has always greatly benefitted from technology, from trading platforms to pre- and post-trade analytics and processing, including pricing and discovery tools, settlement systems and collateral management. This technology has helped the market manage the ever-increasing pace of innovation and change.

However, legal agreements and opinions continue to be dealt with manually and with limited use of technology, despite the fact that financial instruments are simply a series of contractual obligations. Technology such as clause libraries, document generation tools, artificial intelligence (AI) and machine learning, when properly applied and built on legal data taxonomies and standards, can rise to meet the latest challenges of this increasingly complicated regulatory and business landscape, assisting with safe and efficient markets.

Recent work on the digitisation of legal agreements has evolved from initiatives such as Financial products Markup Language to today, where the ISDA Clause Library and ISDA Legal Agreement Taxonomy are key to enabling business benefits to be unlocked through document generation and negotiation platforms, data extraction and analytical tools, especially when supported by ISDA's Common Domain Model (CDM). These new enablers will drive resource optimisation across capital, liquidity and collateral, while assisting with regulatory reporting and operational management. It will be through the medium of data that we truly see the business benefits – combining legal agreement data with market, trade and party information to provide actionable and automatable insights. In the future, this will be possible through smart derivatives contracts.

Although agreement standardisation and automation have received a lot of attention recently, we will increasingly obtain business value through the digitisation of legal advice, which is often provided today through formal written legal opinions. Technology is now being

> "We will increasingly obtain business value through the digitisation of legal advice, which is often provided today through formal written legal opinions"
>
> **Akber Datoo, D2 Legal Technology**

used to create close-out netting or cross-border compliance engines that apply the legal advice in these opinions in an automated manner – providing the controls and audit trails required by regulation such as the European Central Bank's netting reporting requirements and the Basel Committee on Banking Supervision's principles for effective risk data aggregation and risk reporting. These smart legal opinions have the potential to streamline and better manage legal risk while optimising the use of derivatives in a safe and efficient manner.

Maroun Eddé
Chief executive, Murex

Derivatives took off in the 1990s thanks to technology – and fundamental improvements in the derivatives markets can still be spurred by technology.

There are many very specific challenges where technology will obviously have impressive market impacts, such as dealing with an instant burst of calculation capacity to compute counterparty risk exposure in real time. However, its most spectacular impact will be measured by the way the end-to-end derivatives lifecycle can still be transformed.

Each institution active in selling derivatives must build and operate an IT factory capable of structuring, pricing, distributing, hedging, risk managing and settling those products. All such institutions must be connected within an effective network, with each of them connected with their clients.

This global web can massively improve in speed, efficiency and security with the concurrent emergence of new technologies. Software platforms capable of handling the full IT factory within each institution exist today and can bring the consistency and simplicity that is so desperately needed. Development and operations principles and corresponding techniques will inject agility in IT factories that end clients have been craving to get the right products at the right time. The cloud, along with the massive infrastructure being built on top of it, will connect all the value chain dots with the right level of security and almost infinite scaling capabilities. Those dots include all key actors (sell side, buy side, corporates and regulators) and providers (data, exchanges and other execution platforms, business process outsourcing, software as a service and system integrators).

We have never experienced such a convergence of powerful technologies in the capital markets world. I strongly believe their application will slowly but relentlessly transform the value chain into something so efficient that the cost of managing derivatives in the future will be a small fraction of what it is today, with a massively improved capacity for risk management.

"We have never experienced such a convergence of powerful technologies in the capital markets world. I strongly believe their application will slowly but relentlessly transform the value chain into something so efficient that the cost of managing derivatives in the future will be a small fraction of what it is today, with a massively improved capacity for risk management"

Maroun Eddé, Murex

Scott Farrell
Partner, King & Wood Mallesons

Smart contracts can mean different things to different people, from a theoretical term for self-executing computer code to legal contracts that use automated processes to ensure performance. Whichever of these meanings you take, smart contracts →

will drive technological change in derivatives markets.

From master agreements to transaction definitions and from clearing houses to trade reporting, the derivatives markets are no newcomer to standardisation and automation. They have been used to improve productivity, efficiency and risk management over many years, particularly as transactions and regulatory obligations have become more complex. While much of this role has been performed by financial market infrastructure over the past decade, the next decade should see smart contracts contribute as well.

Fundamental to the development of smart contracts is a shared representation of derivatives transactions understood by all the knowledge disciplines that manage productivity, efficiency and risk in the derivatives markets. This permits a collective understanding of critical concepts in derivatives and the risks related to them, and more effective collaboration between technologists, valuation experts, risk managers, compliance officers and lawyers. In reducing duplication between them, it allows experts to focus on what they bring to the derivatives markets. This is important because, like financial market infrastructure, smart contracts must not only be technologically efficient, but must also effectively deliver the range of outcomes needed by their users.

It seems inevitable that the derivatives market will continue its journey from analogue to digital. Smart contracts are the next step, pushing the transition beyond the application of operational processes into legal meaning and effect. The pursuit of ever safer and more efficient markets leads their way.

“It seems inevitable that the derivatives market will continue its journey from analogue to digital. Smart contracts are the next step, pushing the transition beyond the application of operational processes into legal meaning and effect”

Scott Farrell, King & Wood Mallesons

Haytham Kaddoura
Chief executive, SmartStream

Harnessing the potential of new technologies plays an increasingly vital role for financial institutions seeking to enhance the efficiency and cost effectiveness of their derivatives processing operations. While a lack of standardisation has prevented greater automation in the past, initiatives such as the CDM and ISDA Create are driving change, enabling firms to benefit from current advances in IT.

The ongoing drive towards greater digitisation has also increased the willingness of the industry to exploit newer technologies, including AI. Advances in the use of AI in reconciliations have driven efficiencies in processing and costs of up to 20% for some of our clients. Our most recent AI innovation, Affinity, uses observational learning to pick up on what business users do and, just as importantly, what they don’t do. It uses this knowledge to improve matching algorithms and drive down exception processing time and costs.

The need for more flexible access to data and associated processing technologies is also rising up the executive agenda. In response, we’ve ensured our services and solutions are accessible in a variety of ways, including through application programming interfaces (APIs), as microservices or through the cloud. In parallel, we have also seen a significant uptake in managed services from several of our clients.

Institutions now require systems that are easier to use, and don’t demand constant reliance on IT departments.

Lalana Kagal
Principal research scientist, Massachusetts Institute of Technology (MIT)

Ravi Rahman
Graduate research assistant, MIT

Decentralised ledger technologies introduce a new approach to managing the collateralisation of derivatives. Blockchain offers more than speculative cryptocurrencies: they are secure, low-cost decentralised ledgers capable of

> "Financial institutions will continue to focus on the specific needs of clients and regulators, and this will continue to drive innovation in a way that is inherently useful and appropriate from a risk management perspective"
>
> **Declan McKeever, JP Morgan**

executing custom-rules-based logic for processing complex financial transactions at low cost.

The Ethereum blockchain, the second largest to Bitcoin by market capitalisation, provides an API to create digital tokens that represent real assets. Tokens exist for an ever-expanding array of financial instruments, including US dollar, sterling, euro and, recently, US equities. Holders of digital tokens benefit from the same security and accountability guarantees of the underlying blockchain, while also being shielded from the price volatility of traditional cryptocurrencies. Through blockchain programmes known as smart contracts, developers can build applications around digital tokens to manage complex financial transactions. These programmes can store digital tokens in escrow and release the tokens only when predefined conditions are met. This deterministic execution, independent of any entity in the transaction, can significantly reduce costs by eliminating the need for trusted counterparties.

There are several innovations that will enable the derivatives market to realise the benefits of digital tokens. New blockchain protocols, such as Compound, will enable collateral stored in a smart contract to earn interest while still being secured against counterparty default. Proof-of-stake blockchain consensus protocols and transaction side channels, known as lightning networks, will increase transaction volume and lower costs.

Our research group at MIT, the decentralised information group, is investigating how institutions can leverage zero-knowledge cryptographic proofs to demonstrate their collateralisation without revealing the underlying blockchain addresses and account balances. These innovations in blockchain applications, scalability and privacy will enable the derivatives market to take advantage of digital tokens and allow low-cost, accountable and privacy-preserving financial transactions at scale.

Declan McKeever
Executive director and assistant general counsel, JP Morgan

On paper, the proposition that smart contracts have the potential to revolutionise how financial institutions deliver services to their clients is a compelling one, and their beneficial use case for the derivatives markets is no exception. Leading financial institutions will continue to invest heavily to remain at the forefront of technological innovation. The integration of smart contract technology to support firms' various business applications, particularly those deploying distributed ledger technology (DLT) and AI, may sensibly be viewed as a logical extension of that investment. There are, however, various challenges.

Much has been written about how embedding code or conditional logic in contracts risks unintended or absurd outcomes in performance, which were not contemplated by the parties when the contract was formed. That may be true, but the use of algorithmic trading strategies among institutions is merely one example of where conditional logic is already used on a daily basis, and firms are required to have the means to manage those outcomes effectively.

A key issue for financial institutions is obtaining appropriate certainty on the legal and regulatory treatment of smart contracts, including cross-border recognition and enforceability, without which there can be little appetite to progress beyond the use of traditional natural language contract terms. Increased standardisation of terms (including ISDA's considerable efforts in this area) is central to promoting such certainty and the ability of financial institutions to integrate smart contracts across interoperable DLT platforms and their risk, reporting and data analytics systems.

It does not follow that because a contract may be automated, it should be automated. Financial institutions will continue to focus on the specific needs of clients and regulators, and this will continue to drive innovation in a →

way that is inherently useful and appropriate from a risk management perspective. This will undoubtedly extend to novel applications of smart contracts, but what is equally clear is that natural language contract terms, which rely on traditional rules of legal interpretation, shall for many purposes remain the most appropriate and useful way to form and enforce legal obligations.

John Montgomery
Senior specialist, global derivatives and collateral, Vanguard

One of the main challenges facing collateral operations today is managing the vast amount of data throughout the collateral ecosystem. Not only do we need to manage static data from a variety of systems, but we also need to deal with information that, for the most part, is not standardised.

This issue is compounded by the complexity of contracts and the associated data, such as haircuts, eligibility criteria and settlement instructions. Challenges with managing this data result in increased onboarding times and operational risk. The solution is standardisation, and ISDA is leading the way with the CDM. By creating a common model for data, we can avoid both costly IT development and high-risk manual processes and move towards API-driven data communication. Additionally, the CDM lowers the barriers to entry for new technologies that will change the face of operations as we know it, such as smart contracts and machine-learning exception management.

Technology will also remedy some of the pain points related to settlement. Thanks to industry standards like the MT527 message and utilities like the Depository Trust & Clearing Corporation's margin transit utility, we will soon be rid of fax machines and will be able to manage collateral settlement in real time. Improving settlement instruction standardisation via the CDM will allow us to avoid future settlement issues, as well as reduce the time to onboard new contracts.

In the end, these new tools will enable operations to shift their attention to more value-add functions, such as data aggregation and analytics, which will allow us to better support our investment managers in the endeavour to increase the returns for clients.

Beatrix Pole
Director, managing legal counsel, Natwest Markets

Although technology innovation has affected the banking sector as a whole for many years, the scale of regulatory change within the derivatives market since the financial crisis has fostered the development of numerous compliance-related technology solutions. For example, the introduction of mandatory posting of variation margin (VM) and initial margin (IM) as a risk mitigation tool has led to significant changes in collateral management processes, infrastructure and documentation that have been supported by technology enhancements. More recently, the COVID-19 pandemic has accelerated existing trends in technology change as legal teams adapt to the new normal – for example, through the increased use of electronic signatures. ISDA's e-contract opinions have proven to be an incredibly valuable resource in this context.

Mandatory margining required market participants to agree new sets of ISDA VM and IM collateral documentation, as well as custodian-related documentation. This exercise highlighted that a lack of standardisation results in increased legal and operational risk and inefficiencies. Greater standardisation of documentation is also needed to meet the cost challenges the industry is facing. The ISDA Clause Library initiative has started to address this issue. A set of common variations to selected ISDA clauses is now available, so tailoring can be streamlined, efficient and cost effective.

One major benefit of greater standardisation in legal documentation is the opportunity to automate and digitise agreement production, review and amendment. For example, the ability to produce an agreement or ascertain its terms quickly and accurately with limited or no human interaction can facilitate an efficient and cost-effective implementation of future regulatory change, as well as enable a swift reaction to changing market conditions – in particular, in a default scenario.

Nevertheless, any technology solution seeking broad adoption across the market will still need to cater to legacy documentation and non-standard terms. While opportunities to harmonise and streamline will continue to be sought, the need to tailor derivatives documentation will remain. Technology solutions offering market participants a flexible and scalable solution to address this effectively will greatly impact the derivatives markets in the future.

Chris Walsh
Chief executive, Acadia

Derivatives markets are being transformed by global regulations. Together, the non-cleared margin rules, IM implementation, benchmark reform and the standardised approach to counterparty credit risk have created a new framework where risk is quantified using industry standard measures and mitigated using industry standard processes. While the impact of this shift differs across dealers, clearers and the end-user

> "We are on the verge of a digital revolution. Soon, almost all derivatives and much other business will be undertaken by the use of electronic documentation, electronic signatures, smart legal contracts and on-chain records"
>
> **Sir Geoffrey Vos, Master of the Rolls**

segment of the market, there are some common impacts driving technology priorities across the industry.

The most significant impact we see is that all market participants must calculate risk. September marks phase five of the non-cleared margin rules, with phase six next year, which will require many of our buy-side clients to calculate IM based on the ISDA Standard Initial Margin Model. This will necessitate new quantitative capabilities and tools that are no longer siloed within quant teams but are instead embedded across entire organisations, including trading, post-trade and client-facing functions. Risk calculations will be performed in real time thanks to cloud computing, new quantitative tools and open-source risk services. Information will become widely accessible thanks to self-service analytics and visualisation platforms.

To achieve this, the industry must solve a big data challenge. Massive amounts of information need to be exchanged and reconciled across and between financial institutions. Data and domain models must be much more standard than today. This standardisation will require cross-industry collaboration and will involve leveraging data management technologies, including advanced AI-driven normalisation and reconciliation capabilities.

Clients must be prepared for sharp increases in operational and compliance activities that accompany their new risk responsibilities. With this move, workflow will focus on exceptions only and client experiences will become fully digitised. Websites will be replaced with APIs, trading relationships will be codified through intelligent contracting, and workflows will be automated and controlled, all enabled by machine-based learning, AI and explained analytics.

All this change being thrust upon existing businesses will pressure clients to focus on what is most important. This, along with standardisation, will give rise to shared services to perform calculations, manage, normalise and reconcile data, and manage key workflows between parties.

Sir Geoffrey Vos
Master of the Rolls

We are on the verge of a digital revolution. Soon, almost all derivatives and much other business will be undertaken by the use of electronic documentation, electronic signatures, smart legal contracts and on-chain records.

There have been, however, four impediments to the inevitable eventual and ubiquitous use of on-chain smart contracts.

The first impediment was the lack of a clear understanding of the legal status of cryptoassets and smart contracts, something that the UK Jurisdiction Taskforce, as part of Lawtech UK, took forward in respect of English law with its legal statement on the subject published at the end of 2019.

The second impediment is the absence of dependable central bank digital currencies (CBDCs) to allow smart contracts to execute automatically. Several central banks have trialled them, but there is not yet a CBDC that commands international business confidence.

The third impediment is the absence, so far, of a universally accepted method of digitising commercial and legal documentation. The options available are not currently uniform.

The fourth impediment is the absence of a universal dispute resolution process for smart contracts and cryptoassets. However, the UK Jurisdiction Taskforce recently published a set of digital dispute resolution rules, providing for arbitral or expert dispute resolution in very short periods, arbitrators or experts to implement decisions directly on-chain using a private key, and optional anonymity of the parties.

Overcoming these four impediments will transform trading on derivatives and other financial markets globally. IQ

* Reporting Revamp

Taking a digital approach to regulatory reporting using the Common Domain Model will bring greater harmonisation and effectiveness to rules that have been problematic from inception

In 2009, the Group-of-20 (G-20) nations made an important commitment that all over-the-counter (OTC) derivatives contracts should be reported to trade repositories. In the wake of the financial crisis, mandatory trade reporting seemed a well-conceived measure to improve transparency and give regulators better insight into market activity and emerging risks. But it has proven exceptionally challenging to implement consistently.

Twelve years on, many countries are reviewing their rules to improve the accuracy of reporting and the quality of the data they receive. The crux of the problem is that a practice designed to increase transparency has been riddled with inconsistencies and duplication. In response, ISDA has used the Common Domain Model (CDM) to develop a digital regulatory reporting (DRR) initiative that enables firms to interpret and implement regulatory reporting rules in a harmonised way via a common, machine-readable code.

"In some ways, regulatory reporting has always been the most frustrating of the post-crisis reforms. There are massive efficiencies to be extracted from reporting, but, so far, they haven't materialised because every jurisdiction has different requirements, different standards, looks for different information or formulates the same information differently. The CDM has tremendous potential to harmonise those standards so that rules can be written once and read consistently many times," says Eric Litvack, chairman of ISDA.

Promoting consistency

A lack of consistency in the individual reporting fields that have been required in different jurisdictions has confounded attempts to promote greater transparency through trade reporting. Policy-makers around the world have applied the G-20 commitment in subtly different ways, which has led to significant variation in reporting conventions.

Efforts are now well advanced in Europe and the US to review trade reporting rules with the aim of reducing discrepancies and inaccuracies. In late 2020, the US Commodity Futures Trading Commission (CFTC) finalised revisions to its reporting rules with a May 2022 deadline for implementation. Meanwhile, the European Securities and Markets Authority has submitted draft technical standards to the European Commission under the European Market Infrastructure Regulation (EMIR) Regulatory Fitness and Performance programme, which will introduce significant changes to current reporting requirements. These amendments will take effect 18 months after they are finalised.

Attempts have also been made at the international level to address the inconsistencies in trade reporting and promote common data standards. For example, the Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions have developed detailed technical guidance on the harmonisation of critical data elements (CDE) for OTC derivatives.

While the CDE guidance is designed to enable data fields to be reported in a standard and consistent way, it has not been adopted in full by all jurisdictions. Even the EMIR and CFTC revisions, both of which aim to reduce variations and inaccuracies, are only partially aligned to the guidance.

"Less than half of the reportable fields under the revised EMIR and CFTC reporting rules are defined consistently between the two regimes, even though both use the international CDE guidance. We have taken the 55 fields that have been adopted in the same way and incorporated them in the CDM, which gives us a head start in modelling reporting rules consistently for these and other jurisdictions," says Andrew Bayley, director of data and reporting at ISDA.

Digital solution

Other jurisdictions are also expected to reassess their reporting rules, but these reviews will only go so far towards solving the problem. As jurisdictional differences are likely to persist after the changes to reporting requirements have been finalised, a digital approach to reporting using the CDM offers the best way of reducing discrepancies and errors.

The CDM creates a single digital representation of events and processes that occur throughout the derivatives trade lifecycle, enabling market participants to achieve consistency in the interpretation and implementation of complex rules. Rather than having to allocate budget and resources to complying with new requirements, firms can use the CDM code to implement rules in a standard way across the industry.

This approach has huge potential benefits for trade reporting, creating an opportunity to reduce costs, inefficiencies and inconsistencies. ISDA has developed the DRR in the context of several reporting frameworks, including those in the UK and Singapore. In October 2020, ISDA and fintech firm REGnosys won the regulatory reporting category in the G-20 TechSprint after piloting the DRR using reporting requirements set by the Monetary Authority of Singapore.

An earlier DRR pilot was also undertaken with the Bank of England and the Financial Conduct Authority. The Bank of England has recognised the potential of technology to transform data collection in the UK, and last year carried out a major review to shape the evolution of reporting over the next five to 10 years (see box).

"When we got the industry together last year and carried out a review, the number one thing that everyone said we needed to do in order to really increase the transparency, efficiency and flexibility of the data we receive as regulators and central banks was to create common data standards," said Angus Moir, senior manager in the data collection transformation team at the Bank of England, speaking at ISDA's Annual General Meeting on May 12.

"It's been well documented that there have been a lot of problems with the quality and consistency of data, particularly for transaction reporting. If we can get the raw ingredients at the very start of this process standardised and described consistently, then that makes everything further downstream much more consistent and that includes higher quality regulatory data and data reporting," Moir added.

As part of the DRR initiative, ISDA is working with buy- and sell-side firms, service providers, regtech firms and trade associations to convert reporting rules into machine-readable and executable code in the CDM. The current focus has been on the US and European rules, as they have been the first jurisdictions to revise their requirements, but the initiative will expand to cover other reporting regimes as they are reviewed in future.

"This is a critical phase in the regulatory reform programme, as policy-makers look to address those parts of the regulatory framework that have not worked as intended. The DRR will be an indispensable tool in addressing the problems with reporting, giving market participants and regulators greater confidence and enabling faster, cheaper and more reliable implementation of future rule changes," says Bayley.

While the CDM is currently being deployed to address the immediate issues associated with trade reporting, it has the potential in the long term to transform the way regulators issue, implement and update rules. In time, the CDM could pave the way towards a more collaborative approach to implementation that ensures greater consistency across firms and jurisdictions.

"Ultimately, regulators will be able to issue new rules directly in the CDM, in addition to legal texts, which will allow updates to regulations to be implemented far more efficiently in the future. This will remove the burden of interpretation, allowing regulators and market participants to work more effectively together to improve the resilience and efficiency of the market," says Bayley. IQ

TRANSFORMING DATA COLLECTION FROM THE UK FINANCIAL SECTOR

On February 23, the Bank of England published a major paper, *Transforming data collection from the UK financial sector: a plan for 2021 and beyond*, setting out its vision and approach to delivering improvements in data collection over the next decade. The transformation plan followed a public discussion paper in 2020 and more than 260 outreach events with around 130 organisations.

Recognising the increased volume of data that is being created and captured and the expectation of high-quality, timely information to guide decision making, the transformation plan sets out a path to achieving its vision to get the data the Bank of England needs to fulfil its mission at the lowest possible cost to the industry.

The paper sets out three key reforms that are required: defining and adopting common data standards that identify and describe data in a consistent way throughout the financial sector; modernising reporting instructions; and integrating reporting to make data collection more consistent across domains, sectors and jurisdictions.

Several initiatives are expected to deliver the vision, including a long-running joint transformation programme undertaken with the Financial Conduct Authority and the industry to design, test, evaluate and deliver change for data standards and reporting. The first phase will be undertaken over a two-year period and will focus on a small number of selected use cases for particular types of data collection.

The transformation plan highlights ISDA's work in developing the Common Domain Model (CDM) as an example of how data and events can be standardised for complex, bespoke products, which enables regulatory reporting to be much more effective. ISDA is working with the Bank of England to determine how the CDM could support its objectives.

Trading Carbon

Setting a price on carbon through the development of a voluntary market for trading carbon credits has been identified as a fundamental part of global efforts to tackle climate change. Why is carbon trading so important and how can the market be developed?

Imagine being told by traffic police to reduce your speed without any indication of what the speed limit actually is, or being advised by a doctor to lose weight without being told what a healthy weight would be. The requirement is clear, but without a target, it becomes more difficult to make and measure progress.

A similar challenge has emerged in relation to the reduction of carbon dioxide emissions. With the focus on tackling climate change increasing, governments around the world have made ambitious commitments to reduce emissions, with many countries pledging to reach net zero by 2050. To achieve this objective, a price on carbon needs to be set and many believe a robust voluntary market for the trading of carbon credits is required.

"We have to achieve globally harmonised carbon prices to change behaviour and reduce emissions. Every time we put a tonne of carbon dioxide into the atmosphere, we are creating a liability and we have a responsibility to pay to pull that carbon dioxide out of the atmosphere in the future, which is likely to be expensive," says Bob Litterman, founder of Kepos Capital and chairman of the climate-related market risk sub-committee of the US Commodity Futures Trading Commission (CFTC).

Establishing a price on carbon was identified as the single most important step to manage climate risk and drive the appropriate allocation of capital in a September 2020 report by the CFTC on managing climate risk in the US financial system. Without an effective price on carbon, the report noted, financial markets lack the most efficient incentive mechanism to price climate risk.

"Financial markets are forward looking," says Litterman. "Expectations of governments setting strong future incentives to reduce emissions are required today in order to increase the flow of capital towards addressing the systemic risk of climate change as companies seek to make profitable long-term investments."

Carbon price floor

Moves towards a global mechanism for pricing carbon are now gathering momentum at a policy-making level. The International Monetary Fund (IMF) recently called for an international carbon price floor among large emitters, such as the Group-of-20 major economies. Focusing on a minimum carbon price among a small group of large emitters could facilitate an agreement covering up to 80% of global emissions, said IMF managing director Kristalina Georgieva, speaking on April 22 at the Leaders' Summit on Climate, a virtual gathering of world leaders convened by US president Joe Biden.

"A robust price on carbon provides a critical market signal to producers and consumers in all sectors of the economy. It has proven to advance investments in renewable energy, electric mobility, energy efficient buildings, reforestation and other climate-friendly activities – with positive impact on growth and jobs, while reducing carbon emissions," said Georgieva.

Carbon pricing is gaining momentum, she added, and many businesses now use a 'shadow carbon price' – but the average global price is currently $2 per ton and needs to rise to $75 per ton by 2030 to curb emissions in line with the goals of the Paris Agreement. The low price of carbon is generally attributed to supply outstripping demand, but this is expected to change as the demand for sustainability projects rises in the years ahead.

A carbon price floor could be implemented through several different mechanisms,

"Every time we put a tonne of carbon dioxide into the atmosphere, we are creating a liability and we have a responsibility to pay to pull that carbon dioxide out of the atmosphere"

Bob Litterman, Kepos Capital

including taxes or regulated trading systems. A carbon tax would allow a government to levy a fixed fee for the emission of carbon dioxide. This would increase the cost of emissions for companies and consumers, with the aim of encouraging a move towards more environmentally friendly practices. However, while taxes provide price certainty for companies, they are not pegged to a specific emissions reduction target, so the environmental outcome cannot be guaranteed.

In a regulated cap-and-trade scheme, a government would set a sector-specific limit on carbon emissions and companies could then buy or would be allocated allowances to emit a certain amount of carbon dioxide. Each year, they must surrender sufficient allowances and carbon credits to cover their emissions or risk paying heavy fines. Unused allowances can be traded as credits, and carbon offset credits are awarded to recognise proactive initiatives that reduce emissions.

As commitments to reduce emissions have become more ambitious, business leaders have increasingly advocated for market-based rather than regulatory-driven approaches, arguing that they provide the incentives and flexibility to meet targets cost-effectively. One such market-based approach is the voluntary trading of carbon credits, which are certificates that represent a metric ton of carbon dioxide that is either prevented from being emitted into the atmosphere or removed through a carbon-reduction project.

As a voluntary market develops, derivatives will have an important role to play in managing risk. "With the cost of carbon starting to get priced into business operations around the world, the ability to hedge out carbon price exposure – potentially quite a long way forward – to manage that risk will be critically important," says Scobie Mackay, managing director of commodities and global markets at Macquarie.

> "With the cost of carbon starting to get priced into business operations, the ability to hedge out carbon price exposure to manage that risk will be critically important"
>
> **Scobie Mackay, Macquarie**

Scaling voluntary markets

As decarbonisation continues to gather pace, demand for carbon credits will increase, but this demand will only be met if companies can access a robust voluntary market, advocates argue. In January, the Taskforce on Scaling Voluntary Carbon Markets (TSVCM), a private-sector-led initiative sponsored by the Institute of International Finance, estimated that the voluntary market needs to grow 15-fold by 2030 to support the objectives of the Paris Agreement.

"We're not advocating for offsets as the sole solution by any stretch. Rather, we are advocating for recognition of offsets from high-quality avoidance and reduction credits as part of the transition to net zero," says Annette Nazareth, senior counsel at Davis Polk and operating lead of the TSVCM.

Initiated by Mark Carney, United Nations Special Envoy for Climate Action and Finance, and chaired by Bill Winters, group chief executive of Standard Chartered, the TSVCM has more than 250 members, including buyers and sellers of carbon credits. In its final report in January, it set out 20 recommendations to establish a resilient, well-functioning voluntary offsets market.

The recommendations include creating standardised core carbon spot and futures contracts to build liquidity and transparency, underpinned by a common set of core carbon principles and a taxonomy of additional attributes. It also recommends the development of a secondary market, more efficient verification processes, principles for the use and legitimacy of offsets, and new governance, post-trade and data infrastructure.

"If the voluntary carbon market can work effectively alongside the nationally determined contributions of the Paris Agreement, and the corporate world agenda aligns with the national-level agenda, then it definitely has the potential to drive meaningful change," says Dougal Corden, director of power, carbon and environmental, social and governance at Citi.

Since it was established in September 2020, the TSVCM has moved quickly to develop a blueprint for a voluntary carbon market, with four working groups focused on objectives, governance, legal principles and contracts, and credit-level integrity. On May 21, it published a consultation report covering those four areas, alongside the terms of reference for a new governance body.

The TSVCM does not plan to slow the pace of its work, even as negotiations intensify over the contentious Article Six of the Paris Agreement, which calls for a mechanism for countries to support global carbon reduction activities and trade greenhouse gas emissions across borders. This would enable countries that are more successful in reducing emissions to sell their excess to large emitters. Such a scheme could play a major role in the development of a global carbon market, but countries have so far not managed to agree on the terms. In November, leaders will gather in Glasgow for the COP26 meeting, raising fresh hopes that a deal may be struck.

"We're not waiting and cannot predict the outcome of the Article Six negotiations," says Nazareth. "We will be prepared to respond to those efforts, but we feel →

→ we cannot and should not wait for the outcome of those negotiations to scale up voluntary carbon markets in the meantime. Time is of the essence."

Developing infrastructure

While the regulated carbon markets have a fixed legal framework, voluntary carbon markets currently have no such infrastructure, with credits mostly traded on a small scale and governed by private agreements. Practitioners recognise that this approach is not sustainable if the market is to grow, as the limited availability of data and lack of standardisation makes it harder for some large investors to participate.

The wide range of verification methodologies, reporting and measurement processes adds to the complexity. Aligning the market to a verified set of core principles and a taxonomy of attributes to classify different types of credits and projects is critical to achieving standardisation and building liquidity in the voluntary carbon market, participants say.

"There are quite strong and diverse views around the table, so the challenge is making sure the carbon principles are inclusive enough, but at a high enough quality standard, and there aren't so many attributes that it fragments liquidity," says Macquarie's Mackay, who sits on the TSVCM's carbon principles working group.

Standardisation will help transparency and should make it simpler and more efficient to mobilise financing for high-quality, verifiable emissions reductions, which in turn will drive liquidity and pricing competition.

While exchange trading of carbon credits will be critical in boosting liquidity, over-the-counter (OTC) markets will allow contracts to be customised to suit specific risk management requirements. ISDA is looking to develop legal documentation to support trading in voluntary carbon credits and is also analysing the regulatory capital framework that would be needed to underpin the voluntary market.

"It is a herculean task to try to create a proper framework that covers every aspect of the market from scratch, from verification of credits and governance to standardisation of contracts for OTC and exchange trading. It is much easier to develop and draft contract provisions for the compliance markets because all the legal underpinning is in place," says Peter Werner, senior counsel at ISDA, who sits on the TSVCM's legal principles and contracts working group.

ISDA's documentation templates are already used for trading in regulated emissions markets, primarily the EU, UK and US cap-and-trade systems, and work is under way on documentation for a new UK emissions trading scheme. On May 6, ISDA published a new US Renewable Energy Certificate (REC) Annex, in response to increased member interest in trading RECs, which are issued when one megawatt hour of electricity is generated by a renewable energy source. ISDA is also exploring further updates to its definitions to reference specific emissions contracts and is developing a whitepaper on the legal issues related to documentation templates for voluntary carbon credits.

> "If the voluntary carbon market can work effectively alongside the nationally determined contributions of the Paris Agreement, and the corporate world agenda aligns with the national-level agenda, then it definitely has the potential to drive meaningful change"
>
> **Dougal Corden, Citi**

"Standard provisions or forms for voluntary trading don't yet exist but will certainly help to get the market off the ground. We are identifying various types of provisions that are specific to voluntary credits and need to feature in any standard documentation. It is important to set robust legal parameters to avoid fraud, theft and double counting," says Werner.

Further work will be needed to improve the tracking, monitoring and reporting of carbon credits, and ISDA will also look at drafting a new annex to the ISDA Master Agreement for voluntary carbon credits.

"If ISDA, with its experience in the derivatives markets, can take the lead on providing a Master Agreement annex for carbon credits that reflects what the taskforce is creating for the core carbon principles and the additional attributes that we agree should be in the contract, that would be incredibly helpful and a meaningful contribution to our efforts," says Nazareth.

Building momentum

As the world prepares for the COP26 meeting later this year, there is greater recognition than ever of the need to make progress, and the role that carbon trading will play in the transition to net zero. Speaking at the ISDA Annual General Meeting on May 11, Sarah Breeden, executive director for UK deposit-

> "It is a herculean task to try to create a proper framework that covers every aspect of the market from scratch, from verification of credits and governance to standardisation of contracts for OTC and exchange trading"
>
> **Peter Werner, ISDA**

takers supervision at the Bank of England, urged financial institutions to think carefully about the future price of carbon.

"None of us know what the fed funds rate is going to be over the next 30 years, but we wouldn't assume it was zero just because we don't know it yet. So I would encourage all financial institutions to think about putting a price on carbon in investment decisions, or just understanding the sensitivities around that – and by internalising that externality, getting a better view of the future risks you might face," said Breeden.

While the success of political negotiations will be critical in determining the pace of change, the ongoing work of the TSVCM and the development of standard documentation will be equally important in supporting the development of a robust, liquid and well-functioning voluntary market for the trading of carbon credits.

"The barriers to entry for financial institutions aren't lack of knowledge or interest – it is lack of liquidity. More standardisation will help with the commoditisation, which will help with the liquidity in hedging. As liquidity grows, so will the participation of asset managers and hedge funds. But there are lots of different hedging needs, so there needs to be flexibility," says Owain Johnson, global head of research and product development at CME Group. IQ

ISDA AGM: POLICY-MAKERS CAUTIOUS ON CLIMATE DISCLOSURES

Financial markets will play a major role in the transition to a low-carbon economy in the coming years, but policy-makers must tread carefully when it comes to setting prescriptive disclosure requirements to ensure they do not stifle innovation, senior officials have warned.

Speaking on a panel at the ISDA Annual General Meeting on May 11, US and European regulators and central bankers addressed the question of how much granularity and standardisation should be required in the climate risk disclosures made by financial institutions and corporates.

Julie Ansidei, head of strategy and sustainable finance and secretary to the executive committee of France's Autorité des Marchés Financiers, said progress has been made in climate reporting, but there is a long way to go before markets and supervisors have the kind of information they need.

"We do need to further clarify what we expect in terms of climate reporting and further standardise the kind of information we're expecting from companies. One is around how they define their risks, but also how they relate those risks to their strategy and their objectives – that connection needs to be demonstrated," Ansidei explained.

The EU has moved ahead of other jurisdictions to put in place regulations to support the transition to a sustainable economy and increase transparency by requiring clearer reporting on sustainability. But some panellists argued that regulators should not be too prescriptive in their approach.

"We can't prescribe what is going to be material for every company or industry, certainly not across all jurisdictions, and I think with some of these efforts to standardise climate disclosure – while I understand the rationale – I'm concerned we're forcing uniformity and comparability that doesn't actually exist," said Hester Peirce, commissioner at the US Securities and Exchange Commission.

While the idea of distilling climate risk down to a set of comparable metrics might be appealing, the numbers may not be meaningful and could lead to capital being directed to where regulators think it should go rather than where the innovation will actually develop, she added.

"I understand the seriousness of the problems we're trying to solve, but the solutions really do lie in the markets, and we have to give them the freedom to figure out what those solutions are, not to prescribe it by developing a very precise set of metrics," said Peirce.

A Common Law Alternative

*As an English-speaking common law jurisdiction and with automatic recognition and enforcement of judgments across EU member states, Ireland has become a viable option for the resolution of international commercial disputes, according to **Mr Justice David Barniville**, judge in charge of the Commercial List of the High Court of Ireland*

IQ: How is the Commercial Division of the High Court of Ireland structured, and how is it able to source expert judges to deal with disputes involving complex financial instruments like derivatives?

David Barniville (DB): The Commercial Division of the High Court of Ireland was established in 2004, and comprises four judges of the High Court who are assigned to hear cases in the Commercial List (commonly referred to as the Commercial Court). High Court judges are assigned to the Commercial Court by the president of the High Court. As judges in Ireland are appointed from the ranks of the legal profession, the judges assigned to the Commercial Court are those who were experienced commercial senior counsel and commercial litigators. One of those judges is appointed as the judge in charge of the Commercial Court. I have held that position since November 2019, and, in that capacity, I manage the Commercial List and allocate the cases to the judges assigned to the list, including myself.

A party must apply to get a case into the Commercial Court and the rules of court govern the types of cases that can be heard. Essentially, a broad range of cases can be heard, provided they have a commercial dimension. This includes breach of contract, banking, commercial torts, commercial property, Companies Act applications (including schemes of arrangement), insurance applications and insurance cases, certain judicial reviews, statutory and regulatory appeals, European community merger applications and intellectual property cases. Generally, the value of the case must exceed a financial threshold of €1 million. In recent years, the court has regularly dealt with situations where the claims advanced or the value of the cases run into billions of euros. Cases that are heard in the Commercial Court benefit from active case management and oversight by the court, and from an expedited hearing and determination.

Significant disputes involving complex financial instruments including derivatives would, given their nature, complexity and value, almost certainly be heard and determined by the Commercial Court. Judges in the Commercial Court have extensive experience in dealing with complex

"Ireland's common law tradition and its adherence to the doctrine of precedent mean our system will be very familiar to those more accustomed to having their disputes resolved in other common law jurisdictions"

commercial disputes, both from their time in practice and while on the bench. The global financial crisis gave rise to plenty of litigation in the Irish courts, much of which was heard in the Commercial Court.

Significantly, shortly after ISDA published the Irish and French law versions of its key documents in 2018/2019, the judges of the Commercial Court received specialist training in relation to derivatives and relevant case law on the ISDA documents from other jurisdictions and how they have been interpreted elsewhere. We are very open to receiving ongoing training and information on current developments and trends in derivatives and similar financial products.

IQ: Why might parties opt for Ireland as a forum for dispute resolution when entering into derivatives or other complex financial instruments? What measures have been taken to raise awareness of Ireland as a viable option for resolving disputes on derivatives or other complex instruments?

DB: Ireland is a common law jurisdiction with a well-established, sophisticated and efficient court system for resolving commercial disputes. It is now the only English-speaking common law jurisdiction in the EU.

Ireland's Commercial Court has demonstrated its ability to hear and determine commercial cases of considerable complexity and size since its establishment in 2004. It does this through rigorous case management, by providing expedited hearings and by proactively promoting alternative dispute resolution, including mediation in appropriate cases. Appeals are afforded priority in the Court of Appeal, the members of which include a number of judges who previously sat in the Commercial Court and some who formerly were among the leading commercial practitioners in the country.

Ireland's common law tradition and its adherence to the doctrine of precedent mean our system will be very familiar to those more accustomed to having their disputes resolved in other common law jurisdictions. Decisions of courts in jurisdictions such as England and Wales and New York are regularly cited, treated with respect and often followed by the Irish courts. Legal concepts that have arisen for consideration in ISDA cases in other jurisdictions are very familiar to Irish courts. Save for some differences that are not material for present purposes, Irish contract law is very similar to English contract law.

Ireland offers a good option for parties that might wish to seek enforcement of any judgment they obtain in other EU member states. Judgments of the Irish courts benefit from the recognition and enforcement regime in the Brussels Regulation (Recast). The selection of Irish law and Irish jurisdiction also has advantages under Article 55 of the EU Bank Recovery and Resolution Directive and Article 46(6) of the Markets in Financial Instruments Regulation.

No doubt these are and will be factors in parties' decisions on whether to adopt the Irish law version or another version of ISDA's key documents. ISDA's decision to publish an Irish law version of its Master Agreement should, I believe, be seen as a vote of confidence in the choice of Irish law and the Irish courts for the resolution of disputes involving complex financial instruments and related issues, particularly given the extensive member consultation undertaken by ISDA prior to publishing these documents.

The Irish judiciary, through the Chief Justice and other members of the judiciary, have supported the government's 'Ireland for Law' initiative, which seeks to promote Ireland as a global centre for dispute resolution. The initiative is chaired by former Taoiseach John Bruton and dovetails with Ireland's financial services strategy, 'Ireland for Finance' →

"I expect there will be increased focus on Ireland now the Brexit transition period has passed. The fact we are an English-speaking common law jurisdiction and judgments have the benefit of automatic recognition and enforcement throughout the EU will no doubt be considered highly relevant by some when choosing a forum for the resolution of their disputes"

→ Ireland is home to 15 of the world's top 25 financial services companies, is a global leader in aviation finance, and is the second largest investment fund location in the EU and the third largest in the world. The Ireland for Law initiative builds on these existing strengths to market Irish law and Irish jurisdiction for disputes involving derivatives contracts. Members of the Irish judiciary have spoken at international seminars and events in the US and elsewhere to raise awareness of Ireland as a dispute resolution centre for international commercial disputes.

IQ: Has there been increased interest from parties in choosing Ireland as a forum for dispute resolution? Do you expect this to increase now the Brexit transition period is over?

DB: Ireland has for many years been a jurisdiction of choice for undertaking financial transactions. That means both domestic and international parties have become increasingly comfortable with the choice of Irish law to govern their agreements and the Irish courts to have jurisdiction over their disputes.

A significant feature of the work of the Commercial Court in recent years has been the increasing international nature of the cases coming before it. I'll briefly touch on a few examples. Several cases arising out of the collapse of the investment management business of Bernard Madoff have come before the Commercial Court, in circumstances where one or more of the companies sued acted as custodian for the relevant investment fund.

The Commercial Court has been dealing with another set of proceedings that involve a multi-billion-euro claim arising from an alleged corporate raider scheme in Russia involving one of the largest industrial ammonia businesses in that jurisdiction. The court has also heard a number of cases between Facebook, Max Schrems and the Data Protection Commission concerning the transfer of personal data of EU citizens to the US. These proceedings have resulted in two landmark decisions in the Court of Justice of the European Union on references from the Irish courts.

In addition, the Commercial Court has dealt with major intellectual property litigation involving patents of international significance, particularly in the pharmaceutical area. Of particular relevance is the fact that, within the past two years, the court has dealt with several major international corporate restructuring cases involving schemes of arrangement and examinerships under the Irish Companies Act, including Ballantyne Re Plc, Weatherford International Plc, Nordic Aviation DAC and Norwegian Air. All these cases involved complex cross-border restructuring issues.

Like many equivalent jurisdictions around the world, when the COVID-19 pandemic hit in March 2020, the Commercial Court quickly moved to remote hearings and has since been conducting its business on an almost completely remote basis. We have not only been able to deal with applications but also with trials involving witnesses, which has enabled the court to continue its business almost unaffected by the pandemic. The Commercial Court saw an increase in business in 2020 in terms of cases admitted to and dealt with by the court.

I believe Ireland as a jurisdiction – and the Commercial Court in particular – is well placed to be considered a realistic and attractive option for parties seeking an appropriate jurisdiction for the resolution of their commercial disputes. I expect there will be increased focus on Ireland now the Brexit transition period has passed. The fact we are an English-speaking common law jurisdiction and judgments have the benefit of automatic recognition and enforcement throughout the EU will no doubt be considered highly relevant by some when choosing a forum for the resolution of their disputes.

IQ: How closely would the Commercial Court take previous rulings by English or New York courts on derivatives disputes into account when making its judgments?

DB: Decisions of the English courts and of the courts of New York (in particular, the US District Court for the Southern District of New York and the Court of Appeals for the Second Circuit) are often relied on in cases before the Irish courts. In the absence of a binding decision of the Irish courts on the relevant issue, the Commercial Court will treat pertinent decisions of other common law courts, such as those of England and Wales and New York, as highly relevant and of persuasive (but not binding) value. There are many examples of Irish courts applying decisions of the English and New York courts.

In the case of disputes concerning the interpretation of provisions of ISDA documents, I would expect the Commercial Court to pay very close attention to a decision on the same or similar issue by a court of another common law jurisdiction, particularly where the law underpinning the decision is similar to Irish law on the issue. It is relevant to note that the general principles of Irish contract law and English contract law that would be relevant to the interpretation of ISDA contractual documents are broadly similar – the differences are not likely to be material in this context.

IQ: ISDA has launched Irish and French law versions of the ISDA Master Agreement, which now sit alongside English and New York versions. Have you seen indications that more counterparties are opting for Irish governing law?

DB: Given my role as a judge of the Commercial Court, I would only be personally aware of whether more counterparties are opting for Irish governing law in the event of a dispute arising between the parties that leads to proceedings before the court. It would be too soon to see those disputes, bearing in mind the relatively short period of time since the Irish law versions of the ISDA documents were published. Of course, the vast majority of derivatives contracts never end up in dispute or litigation before the courts.

However, I have enquired of leading practitioners in the field, and have been informed that there is increasing evidence of the use of ISDA's Irish law documents by Irish financial institutions and their customers based in other EU member states, by financial institutions based in EU member states other than Ireland and their Irish customers, and by financial institutions based in the UK and their Irish customers, where those documents are used either on a standalone basis or as part of a suite of transaction documentation governed by Irish law where the 2002 ISDA Master Agreement is being used to document a finance-linked hedge. I am also informed that certain financial institutions based in EU member states other than Ireland are using the ISDA Irish law documentation to document arrangements with customers incorporated in and acting out of EU member states other than Ireland.

> "In the case of disputes concerning the interpretation of provisions of ISDA documents, I would expect the Commercial Court to pay very close attention to a decision on the same or similar issue by a court of another common law jurisdiction, particularly where the law underpinning the decision is similar to Irish law on the issue"

IQ: What are the challenges involved in adjudicating on disputes involving complex financial instruments like derivatives?

DB: Apart from the complexity of the issues raised in these cases, one of the major challenges in dealing with such disputes is the sheer volume of documentation that parties tend to place before the court. One of the objectives of active case management in these types of cases is for the court to try and ensure the documents placed in evidence are kept to a minimum, or at least to manageable levels. It is not always →

"One of the objectives of active case management in these types of cases is for the court to try and ensure the documents placed in evidence are kept to a minimum, or at least to manageable levels. It is not always possible to achieve that objective"

→ possible to achieve that objective. It is the invariable experience of judges that while the parties will put a vast amount of documentation in evidence, the documents ultimately relied on and referred to at the trial will be a tiny percentage of the overall number. There is only so much the court can do to restrict the parties in terms of the documentation they seek to put in evidence, but the court should do what it can to avoid the volume of documentation getting out of hand.

I would note that the Commercial Court has been willing to embrace technology to deal with new challenges, including those brought about by discovery of enormous volumes of documents. In 2015, the Commercial Court confirmed that parties could use technology-assisted review (TAR) to reduce discovery costs and speed up the process of making discovery. That approach was subsequently accepted by the English High Court when approving the use of TAR for the first time in 2016. A recent review conducted by a former president of the High Court made a number of recommendations, including in the area of discovery, which are designed to reduce the burden of discovery for parties. I expect those recommendations will likely be implemented by the government.

Apart from the documentation, another challenge is the sheer complexity of some of the issues. That makes it all the more important for judges in the Commercial Court to receive regular training and updates on developments and trends in financial instruments and derivatives litigation elsewhere. Such training has already occurred, and we are open to receiving ongoing training and information in this area.

IQ: You are a member of Ireland's group at the Permanent Court of Arbitration in The Hague. Can you briefly explain your role there?

DB: In addition to being the judge in charge of the Commercial Court, I am also the judge designated by the president of the High Court under the Arbitration Act 2010 to hear all arbitration-related matters in the High Court. In that capacity, I was appointed by the Irish government as a member of Ireland's national group at the Permanent Court of Arbitration (PCA) in The Hague.

The PCA assists states and others in the peaceful settlement of disputes and maintains a panel of arbitrators referred to as members of the court. Each contracting state is entitled to appoint up to four members of "known competency in questions of international law, of the highest moral reputation and disposed to accept the duties of arbitrators". Members of the PCA from each contracting state constitute that state's national group. Members of a national group typically consist of judges, academics, legal practitioners and current or former foreign ministry legal advisers. Each group is entitled to nominate candidates for election to the International Court of Justice and to the International Criminal Court.

IQ: The High Court of Ireland is also a member of the Standing International Forum of Commercial Courts (SIFOCC). How important is international cooperation between commercial courts globally?

DB: The Irish High Court is pleased to be a member of the SIFOCC. In an earlier interview with **IQ**, Sir William Blair, former judge in charge of the Commercial Court in London, succinctly explained the role of the SIFOCC. Two judges from the Irish Commercial Court participated at its meetings in London and New York, and two judges recently participated at the third meeting of the SIFOCC, which was hosted by Singapore and held remotely in March 2021. I was privileged to attend that meeting with Mr Justice Michael Quinn, another member of the court.

I and my colleagues on the Commercial Court regard it as extremely important to participate fully in international initiatives such as the SIFOCC. We have much to learn about the practices in other commercial courts and are also very happy to share our own experiences with judges in commercial courts around the world. In addition to our participation in the SIFOCC, we have established a regular line of communication with the judges in the commercial courts in Northern Ireland, Scotland and England and Wales. IQ

ISDA Safe, Efficient Markets

What is the ISDA CDM?

The ISDA Common Domain Model (ISDA CDM™) is a blueprint for how derivatives are traded and managed across the trade lifecycle. Having a single, common digital representation of derivatives trade events and actions will enhance consistency and facilitate interoperability across firms and platforms, providing a bedrock upon which new technologies can be applied.

WHY THE ISDA CDM?

Catalyst

- Over time, each firm has established its own systems and its own unique set of representations for events and processes that occur during the life of a derivatives trade.
- There is no commercial advantage to organizations maintaining their own representations. It results in firms having to continually reconcile their trades to make sure they have the same information – a big drain on resources. It also curtails the potential for greater automation, and results in increased operational risk.
- New technologies offer the potential for greater automation and efficiency, reducing complexity and costs. But effective automation can only be built on standardization.

Opportunity

- Derivatives market participants are looking at ways to reduce costs and improve the efficiency of back-office processes.
- An opportunity exists to create standards that support innovation and promote the adoption of new technologies.
- ISDA has a 30-year track record in developing industry standards.

BENEFITS OF THE ISDA CDM

- **Enhancing interoperability, reducing reconciliation and promoting straight-through-processing:** The ISDA CDM enables a consistent hierarchical representation across trades, portfolios and events, providing enhanced risk management and trade processing capabilities.
- **Creating an environment for innovation in financial markets:** The ISDA CDM creates a foundation for long-term process transformation using emerging technologies like cloud, distributed ledger and artificial intelligence. The ISDA CDM is available in machine-readable and machine-executable formats and languages that can be consumed by those technologies.
- **Delivering better regulatory oversight:** The ISDA CDM promotes transparency and alignment between regulators and market participants, ensuring regulatory goals can be met more efficiently.

Want more information? Contact Us: ISDA Market Infrastructure & Technology - MarketInfrastructureandTechnology@isda.org

Meeting Statutory Objectives

The US Securities and Exchange Commission took time to develop its Dodd-Frank rules for security-based swaps, but, as commissioner ***Hester Peirce*** *explains, it is now looking ahead to emerging issues, including ESG and crypto regulation*

IQ: You have played a lead role in the development of the Securities and Exchange Commission's (SEC) regulatory regime for security-based swaps. Are you satisfied that the rules achieve their objectives, and how effective will the regime be?

Hester Peirce (HP): I came to the SEC in 2018 as a sceptic of the Dodd-Frank Act and I had been very public about that scepticism. But I believe that when we are asked by Congress to do something, we must do it. I was eager, when chairman Jay Clayton asked me, to get our Dodd-Frank Title VII rules over the finish line because I thought it was important for us to have clarity and to comply with the statutory mandate.

I think it's too early to tell whether we've been successful, but I'm certainly optimistic. There will always be unintended consequences, but we worked hard to achieve the statutory objectives, which include requiring that dealers have adequate capital, there is a good margining regime in place and firms are taking appropriate risk mitigation measures. We made some changes where we heard concerns about burdens, and we tried to moderate those burdens in a way that would still allow us to achieve our objectives. We also said we would be willing to revisit policy choices if that was necessary in light of market changes or regulatory developments.

IQ: You have been credited with seeking to align the rules with those of the Commodity Futures Trading Commission (CFTC), which were put in place under chairman Gary Gensler. Does this suggest you will work well together at the SEC?

HP: I've known chairman Gensler since he was at the CFTC and I was at the Senate Committee on Banking, Housing, and Urban Affairs. I certainly had concerns that the speed with which the CFTC moved with its adoption of Title VII of the Dodd-Frank Act required it to make a lot of adjustments through the no-action relief letter process, which is not the ideal way of setting up a regulatory regime. That said, it shows that chairman Gensler takes statutory directives seriously, as I do. It will be very helpful to have a chairman with the deep knowledge he has of the CFTC and the swaps market. I think he has an appreciation of the importance of harmonising the approaches that the two agencies take across the board. In terms of his policy objectives, I look forward to working with him on crypto issues – something about which he is certainly very knowledgeable and for which he has an appreciation of the need for a better regulatory framework.

IQ: Do you think it is preferable to take time to implement regulations more slowly or to go faster and address any issues through no-action relief?

HP: The fact that the SEC has taken a slower approach was in part because it had regulatory directives in so many areas. The CFTC had more of a concentrated focus of attention on Title VII issues, so it wasn't surprising that it moved faster. But when you put rules in place quickly and rely on extensive no-action relief to make up for any weaknesses in those rules, you really need to go back at some point and look at codifying that relief. In some ways, I do think it's better to go slowly, get the feedback and then incorporate it into the rules themselves. It is still good practice to review how the regulatory framework is working a few years later. The CFTC has reviewed its framework in a number of areas, and we have certainly benefited from its experience of how Title VII has worked. Agencies will always differ in their approach, but the key thing is to be flexible enough to review and make changes when necessary.

"I was eager, when chairman Jay Clayton asked me, to get our Dodd-Frank Title VII rules over the finish line because I thought it was important for us to have clarity and to comply with the statutory mandate"

IQ: What do you expect will be the biggest challenges in implementing the security-based swap rules?

HP: I hope the SEC and the industry share the goal of having markets that are effectively regulated to address some of the concerns we saw during the last financial crisis, so those markets can continue to serve as predictable and useful tools for companies that rely on them. Hearing from the industry is important, and we do hear a lot about what the effect and burden of different pieces of the regime will be. This is a global market, and we are committed to making sure our regime works with both the CFTC regime and also with global rules.

It makes sense to provide tailored relief where warranted. We have provided time-limited relief for certain external business conduct and swap data reporting requirements. Additional relief to align with what other regulators did last year – namely, extend the timetable for the phase-in of initial margin requirements – could assist dually registered security-based swap dealers that otherwise might have to get documentation in place with their smaller security-based swap counterparties without the benefit of the extension.

We have also been working on substituted compliance, which is a time-consuming process. We've got that process rolling now and have a substituted compliance order completed with Germany, as well as a proposed order for France and the UK. We need to keep this process moving.

IQ: Do you have any concerns about examination and enforcement when it comes to firms that operate on a global basis?

HP: This is a really good opportunity for us to think creatively about how we can set up and administer examination and enforcement programmes for market participants. Domestically, we are going to share a lot of registrants with other agencies with which we already have strong relationships – there are going to be banks that are subject to supervision by prudential regulators, and futures commission merchants and swap dealers subject to the CFTC, which also have National Futures Association (NFA) oversight.

On the international front, I'm also optimistic. The substituted →

"I hope the SEC and the industry share the goal of having markets that are effectively regulated to address some of the concerns we saw during the last financial crisis, so those markets can continue to serve as predictable and useful tools for companies that rely on them"

→ compliance determination we issued for Germany in December means that firms complying with relevant German requirements will also satisfy our rules. We will have the ability to do on-site exams and obtain books and records, and we have the authority to oversee these firms for compliance with our securities laws. But we will need to rely heavily on our German counterparts here, understanding that they have the expertise on the relevant German law requirements.

IQ: The derivatives market infrastructure proved resilient during the coronavirus crisis, despite very high volatility in March and April 2020 and with the industry having to pivot to remote working. Are there any issues that need to be addressed or reviewed in light of the pandemic?

HP: I certainly agree that derivatives markets and the market infrastructure more generally held up well, both during the pandemic and more recently when we had really intense trading volumes in the US associated with the meme stock events. I am certainly open to discussions about, for example, better margin predictability and settlement timing.

The Federal Reserve and other central banks were very active in supporting the markets over the past year, but I believe the goal should always be for the markets to function without that external helping hand. We strive for capital markets that can adjust and remain resilient when market-moving events happen. We should take what we have learnt over the past year or so to assess whether the requirements we put in place during the last crisis are calibrated properly.

With respect to derivatives market infrastructure, I continue to urge vigilance with clearing houses, which performed well during the pandemic. I continue to be concerned that forcing transactions into clearing could exacerbate the potential for clearing houses to become a source rather than a mitigator of risk in the future. That said, I don't object to having market participants move voluntarily into clearing, and the financial crisis showed the value of having a central counterparty in the middle of transactions.

IQ: When it comes to environmental, social and governance (ESG) investing, how do you strike the balance when setting requirements for reporting and disclosures to promote transparency without being excessively prescriptive?

HP: In the US, we have a principles-based disclosure framework that is designed to elicit a perspective of what the company looks like through the eyes of management. So, companies disclose material information, including their principal risks. That core system has worked well over time, even as the risks change and the determinants of long-term financial value might change – but that allows companies to provide the

KEY DATES FOR REGISTRATION OF SECURITY-BASED SWAP DEALERS AND MAJOR SECURITY-BASED SWAP PARTICIPANTS

April 6, 2020: Effective date for cross-border security-based swap rule amendments

August 6, 2021: Counting date for thresholds in security-based swap entity definitions

October 6, 2021: Compliance date for certain rules applicable to security-based swap entities

November 1, 2021: Registration applications due from security-based swap dealers that incur a registration obligation on the counting date

December 1, 2021: Registration applications due from major security-based swap participants that incur a registration obligation as a result of security-based swap activities in their quarter ending September 30, 2021 information investors need. Companies and industries differ, so what is material for one company or industry might not be material for another company or industry.

ESG issues will be on chairman Gensler's agenda, and they're certainly on the agenda of our counterparts in Europe and international organisations. Many regulatory efforts are centred on building out specific mandatory disclosure items, including ESG metrics. I understand the appeal of more precise disclosure requirements, but the ambiguity, uncertainty and ever-increasing breadth of ESG topics will make this a difficult undertaking.

"The Federal Reserve and other central banks were very active in supporting the markets over the past year, but I believe the goal should always be for the markets to function without that external helping hand"

IQ: Do you think there is sufficient cross-border cooperation on developing consistent ESG standards and metrics, given the EU is quite far advanced in the development of regulations?

HP: There is certainly a lot of cooperation and we are very active in all the relevant international organisations, but I have a somewhat idiosyncratic view on whether we should have totally harmonised standards that would work everywhere.

I actually think this is a very bad idea as it means capital will move uniformly worldwide to industries and technologies that present well under the uniform standards and metrics. Given our knowledge is limited, it is hard to get metrics and standards right. Any resulting misallocation of capital could have profound effects, including inadvertently directing capital away from a sector or company that could have unlocked a key solution for a more sustainable future global economy.

We just don't know in advance where human ingenuity will work its wonders, but we want our capital markets to be flexible enough to find and fund that ingenuity.

IQ: We now have absolute clarity on when all 35 LIBOR settings will cease publication or become non-representative. How is the SEC working with the industry to accelerate and support the transition to alternative reference rates?

HP: I have certainly admired the way ISDA, one of the first to wrestle with difficult transition challenges, has approached this issue. The SEC, for its part, has worked with the Alternative Reference Rates Committee, our fellow regulators both in the US and abroad, and the various constituencies that have to think about how they will handle the transition. We have put out guidance for public companies, municipalities and regulated firms.

The biggest concern is around smaller entities, including asset managers, banks and companies, that really haven't confronted this yet. We're raising awareness of the issue and working with others, including Congress, that are trying to think of solutions for some of the more difficult problems the transition poses.

IQ: The proposal for a financial transaction tax has been much discussed by Democrats and seems to have received additional support following the GameStop trading event. Would you be in favour?

HP: The economic literature I have read suggests it is not a good approach. I understand that governments are looking for sources of revenue and this is probably a tempting place to look. But, in the end, it's not good for the marketplace, which would see liquidity suffer, or for the investors that would end up bearing the costs.

IQ: Do you expect crypto assets are here to stay and if so, will tougher regulation be needed?

HP: I do expect crypto is here to stay, but I try not to weigh in about which particular assets will survive in the long run. Whenever you see talent moving into a new area, you have to assume there is going to be something long term that comes out of it. As with anything new, I expect there are going to be a lot of failures, but people will learn from these and build better things. As for regulatory predictions, I expect chairman Gensler will be receptive to the call for more regulatory clarity in this area and I hope we can work together on that. IQ

Commissioner Peirce's views expressed in this interview are her own and not necessarily those of the SEC or her fellow commissioners.

Clear Priorities

*The European Commission's financial market infrastructure unit has had a busy agenda since the financial crisis. Acting head of unit **Jennifer Robertson** explains how the EC is addressing current issues in the post-trade derivatives landscape*

IQ: As acting head of the financial market infrastructure unit at the European Commission (EC), how are you managing current demands and what are your priorities?

Jennifer Robertson (JR): In the post-trade area, there is always a lot going on. Already this year, we have adopted an equivalence decision for the US Securities and Exchange Commission's (SEC) legal regime for central counterparties (CCPs), a report on post-trade risk-reduction services, amendments to the rules on the exchange of margin and clearing, as well as acts setting out the rules or procedures on penalties for trade repositories and third-country CCPs, and a delegated regulation on fair, reasonable, non-discriminatory and transparent commercial terms for the provision of clearing services. A lot more is in the pipeline, including the European Market Infrastructure Regulation (EMIR) Regulatory Fitness and Performance reporting package and the Central Securities Depositories Regulation (CSDR) review.

Our main priorities for 2021 are threefold. First, there is our work to encourage a reduction in EU exposures to non-EU CCPs. In the first half of the year, we set up a working group on clearing that is examining technical barriers to reducing exposures to UK CCPs. The group aims to complete its work by mid-2021. Second, we have the review of the CSDR. Finally, we kicked off a review of both the Settlement Finality Directive and the Financial Collateral Directive with a public consultation that ended on May 7.

Like many businesses, this is all taking place entirely remotely. Naturally, there are some things that are not as easy as before, like dropping into a colleague's office to ask a question. That being said, our team has been committed to getting the job done and has proven extremely adaptable to the circumstances.

IQ: How would you describe the unit's relations with its counterparts at the US regulatory agencies on financial market infrastructure issues?

JR: Over the years, EU-US relations in the field of market infrastructures – in particular, in relation to the regulation of CCPs – have been closely followed in the press. Throughout that time, we have maintained an open and constructive dialogue with our US counterparts. We kicked off this year with the adoption of an equivalence decision for the SEC framework for CCPs, and the European Securities and Markets Authority (ESMA) is now working on the recognition of several SEC-registered CCPs. We also recently finished a successful EU-US financial regulatory forum.

IQ: Are you working on any draft equivalence determinations with third countries in the financial market infrastructure area?

JR: In keeping with the global nature of derivatives markets, regulators across the globe use various tools to manage the risks and challenges deriving from cross-border activities, in pursuit of the same objective of promoting financial stability and transparency. As agreed by the Group of 20, duplication, conflicts and inconsistencies in regulatory frameworks, which can otherwise lead to regulatory arbitrage and market fragmentation, can be avoided or limited through the use of deference, equivalence or other comparable tools.

Earlier this year, the EC published for public feedback draft decisions on the equivalence of rules on risk mitigation techniques for non-centrally cleared derivatives in Australia, Hong Kong, Singapore, Canada (the Office of the Superintendent of Financial Institutions), the US (prudential regulators) and Brazil to the rules in Article 11 of EMIR. We are currently looking into the feedback and aim to be able to adopt equivalence determinations later this year.

Regarding CCPs, the EU has a good track record in this field. Since EMIR entered into force in 2012, the EC has adopted equivalence determinations for 16 non-EU jurisdictions and ESMA has recognised 37 non-EU CCPs. In addition, ESMA is currently in the process of recognising US CCPs supervised by the SEC, for which the EC adopted an equivalence determination on January 27, 2021.

Looking forward, a number of non-EU CCPs have applied for recognition by ESMA but cannot be recognised because no equivalence determination is in place. These countries remain on our radar screen. While the EC's equivalence assessments are proportionate to the risks posed to clearing members in non-EU countries and look at whether the third-country rules achieve the same regulatory outcomes as EU rules, all relevant conditions in EMIR have to be fulfilled for an equivalence determination to be granted.

> "Looking forward, a number of non-EU CCPs have applied for recognition by ESMA but cannot be recognised because no equivalence determination is in place. These countries remain on our radar screen"

The reasons for the lack of equivalence determinations for these countries vary considerably, ranging from a lack of information to fully understand a third country's framework to potential issues that require further dialogue between regulators, and everything in between. It is therefore too early to say whether and when the EC could potentially grant equivalence for all these outstanding countries. In this respect, the industry should prepare for all eventualities.

IQ: The EC recently conducted a targeted consultation on the review of the Settlement Finality Directive (SFD). What were the key issues being considered?

JR: The last time we looked at the SFD or the Financial Collateral Directive was over a decade ago. A lot has changed since then.

The first review of the SFD was in 2008/2009. After that, there were another four amendments focused on incorporating modifications in other EU regulations or directives such as EMIR or the CSDR, which were introduced to deal with the aftermath of the financial crisis. We believe the time is now right to consider a wide range of specific areas where targeted action may be necessary, taking into account new developments in a changing business, technological and regulatory environment.

One key issue is the participation in systems governed by the law of a third country. Article 12a of the SFD requires the EC to report on how member states apply the directive to domestic institutions that participate directly in systems governed by the law of a third country, and to collateral security provided in connection with their participation. If appropriate, the EC will provide a proposal for the revision of the SFD.

Another key issue is the participation in systems governed by the law of a member state – notably, whether the list of participants should be amended (eg, extended by payment and/or e-money institutions) and, if so, under what conditions. In addition, technological developments are being considered, as well as the interaction with other EU (insolvency or other) legislation. As the SFD is closely linked with the Financial Collateral Directive, issues regarding the latter are being looked at in parallel.

"A scaling down of EU exposures to UK CCPs is needed due to the risks for the EU's financial stability and the transmission and conduct of monetary policy, and we would urge the industry to take steps towards reducing their reliance on UK CCPs"

→ **IQ:** How much time does the unit spend on Brexit-related issues? What are the areas of biggest impact within financial market infrastructure?

JR: Brexit has clearly been one of the main issues in the area of financial market infrastructure since the UK referendum in 2016. A lot of our work since then has had to reflect the Brexit dimension – notably, EMIR 2.2 – and, most directly, intense work on equivalence decisions for both UK CCPs and central securities depositories.

Brexit has happened and the UK is now a third country. Because of the past history, the level of interconnectedness, and the current significance of UK financial market infrastructures and the risks that entails for the EU, as well as more generally the global nature of financial markets, relations with the UK in this area are likely to be an important topic on our agenda for some time to come.

IQ: The EC has established a clearing working group to support the reduction of European firms' exposures to UK CCPs. How is the working group approaching this, and what challenges have been encountered?

JR: The working group is focused on the opportunities and challenges involved in reducing European firms' current exposures to UK CCPs, ideally by voluntarily transferring their positions out of UK CCPs and into EU CCPs. The group is chaired by the EC and is composed of high-level representatives from different EU institutions and authorities. The discussions in the working group should help to identify the possible barriers or impediments to reducing those exposures, possible incentives to transfer exposures to EU-based CCPs and possible ways to manage any identified issues or risks in such a transfer of exposures. It should also reflect on whether the opportunities and challenges vary between products.

As the objective of the working group is to foster a voluntary shift from the industry, it regularly seeks input from various private-sector stakeholders in the financial services sector, EU and non-EU clearing members, CCPs and representatives of the buy side. So far, the discussions have been very productive and informative, with great input and engagement from the industry, which is very much appreciated. That being said, as we have said before on several occasions, a scaling down of EU exposures to UK CCPs is needed due to the risks for the EU's financial stability and the transmission and conduct of monetary policy, and we would urge the industry to take steps towards reducing their reliance on UK CCPs.

IQ: Is EMIR 2.2 achieving what it set out to achieve? How much progress has been made in assessing and overseeing third-country CCPs that are deemed systemically important in the EU?

JR: In accordance with the new framework set up under EMIR 2.2, ESMA has established the CCP Supervisory Committee, which started operating on December 1.

The CCP Supervisory Committee is in charge of both the supervision of tier-two third-country CCPs and supervisory convergence for important aspects related to EU CCPs, such as stress tests and risk model validation. So far, ESMA has assessed three UK CCPs that applied for recognition, resulting in two CCPs (LCH Limited and ICE Clear Limited) being classified as tier-two CCPs and LME Clear Limited being classified as a tier-one CCP. This means ESMA directly supervises LCH Limited and ICE Clear Limited in cooperation with the Bank of England. Cooperation with other jurisdictions where tier-one CCPs operate has also greatly improved and is developing all the time.

In the coming months, the CCP Supervisory Committee will assess the systemic nature of LCH Limited and ICE Clear Limited and consider, together with the European Systemic Risk Board (ESRB) and the relevant national central banks, whether it is necessary to make any recommendations to the EC that some or all of the activities conducted by these CCPs should be relocated inside the EU, or that these CCPs should stop being recognised.

IQ: ESMA's report on post-trade risk reduction in November 2020 supported a limited and qualified exemption from the clearing obligation for compression and rebalancing trades. Will the EC adopt this approach?

JR: We published a report on post-trade risk reduction services on April 12. This is based on ESMA's report, as well as the results of its public consultation and various contacts we had with stakeholders from all sides of the debate, including the users and providers of such services to wider industry participants.

ESMA, in cooperation with the ESRB, provided us with an extensive and thorough analysis of post-trade risk reduction services. Nevertheless, some aspects – such as possible interlinkages between such services, the risks of a possible circumvention of the clearing obligation and the incentives to centrally clear – require further quantitative assessment and analysis. Further work on these issues would contribute to a more comprehensive and well-rounded assessment of the issues at stake, which could feed into the general EMIR assessment report to the European Parliament and the Council of the European Union by mid-2024.

IQ: Under the CSDR, should the mandatory buy-in regime apply to the exchange of margin for physically settled derivatives?

JR: One of the objectives of the CSDR is to improve settlement efficiency in securities settlement systems in the EU. In order to do this, the co-legislators introduced a series of measures, known as 'settlement discipline', which are aimed at preventing, monitoring and resolving settlement fails.

The mandatory buy-ins are the last resort to address settlement fails. They should be triggered when the failing participant does not fulfil its obligation to deliver securities after a certain period of time following the intended settlement date.

The design of this mechanism in the CSDR has the merit of setting a simple principle: where a participant in a securities settlement system in the EU does not deliver the securities it had committed to deliver, the mandatory buy-in should help the receiving participant to obtain them or be compensated. This should achieve the goal set by the co-legislators in the CSDR of improving settlement efficiency in the EU.

Having said that, the EC has received a number of important questions on the scope of application of settlement discipline and, in particular, mandatory buy-ins. One of the questions raised is whether mandatory buy-ins should apply to certain transactions, such as primary market transactions, transactions where the ownership does not change, corporate actions and operations by which collateral is exchanged between two counterparties to a transaction.

> "I think it is important to underline the resilience of financial market infrastructures. In essence, the post-financial crisis global reforms have significantly strengthened the financial markets architecture"

IQ: What financial market infrastructure policy issues have been raised as a result of the coronavirus pandemic? How is the EC approaching this as part of broader efforts to promote the recovery from the pandemic?

JR: I think it is important to underline the resilience of financial market infrastructures. In essence, the post-financial crisis global reforms have significantly strengthened the financial markets architecture. This is confirmed by reports from the Bank for International Settlements, among others. That being said, regulators and supervisors should not be complacent.

The COVID market turmoil gave rise to high volatility of financial markets. Those volatility peaks have been followed by large unexpected margin calls at some CCPs that could potentially have been procyclical. We support further analytical work at the international level, under the Financial Stability Board, the Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions, as well as work by the ESRB. While we believe the EMIR framework is particularly resilient, more convergence is needed internationally to limit procyclicality in derivatives markets.

Another debate that has resurfaced during the pandemic is the CSDR framework on settlement discipline. The immediate concern of market participants was the ability to continue certain regulatory projects, including adapting IT systems, at a time when efforts were focusing on moves to remote working and dealing with day-to-day operational and cyber resilience. These immediate concerns led to the postponement of the application date of the settlement discipline framework to February 2022.

Subsequently, market participants have expressed their concerns about the potential impact of the settlement discipline framework had it been in place in the initial days of the pandemic, notably in terms of liquidity, the ability to continue to hedge risks and increasing costs of transactions. A lot of information and data on this subject has been submitted to the EC as part of the CSDR review, and we are looking into all the information provided. IQ

Pressing Deadlines

*Derivatives market participants are preparing for several upcoming deadlines, including the end of LIBOR, implementation of the Fundamental Review of the Trading Book and phases five and six of the initial margin requirements. Benoît Gourisse, head of public policy, Asia Pacific, talks to **Frederick Shen**, head of global treasury business management at OCBC*

For derivatives market participants in Asia-Pacific, the impact of global changes in regulation and market structure can often be more nuanced than in the US and Europe. The Asian market is more fragmented, and an appropriate response to a regulatory change in one country might need to be rather different elsewhere.

Benchmark reform is a case in point. US dollar LIBOR is heavily used across the region, so firms will need to transition to alternative reference rates ahead of forthcoming deadlines. Even though most US dollar LIBOR settings will continue to be published until mid-2023, several regulators, including the US Federal Reserve, have said they expect to restrict new use of US dollar LIBOR from the end of 2021, except in limited circumstances.

However, while LIBOR is set to disappear, several jurisdictions in Asia-Pacific, including Australia, Hong Kong and Japan, will retain their local interbank offered rates (IBOR) alongside local currency risk-free rates (RFRs). In some countries, like Japan, a forward-looking RFR term rate is also available. In these multi-rate regimes, firms will need to think carefully about which rates are most appropriate for their purposes.

Other imminent deadlines are also keeping market participants busy. On September 1, entities subject to phase five of the global margin requirements for non-cleared derivatives will need to begin posting initial margin (IM). Both this phase and


Frederick Shen, OCBC

phase six in September 2022 are expected to capture a significant number of entities in Asia-Pacific, including many non-banks that may find the preparations to exchange IM more operationally challenging than those firms in earlier phases. Given the fragmented nature of the region, in-scope entities have the possible added task of getting to grips with multiple regulatory regimes.

Meanwhile, the final components of the Basel III framework, including the Fundamental Review of the Trading Book (FRTB), are due for global implementation by January 1, 2023. The new rules will see more stringent constraints applied to the use of internal models, which may drive even the largest banks in the region to adopt only the standardised approaches to market risk capital calculations.

Frederick Shen, head of global treasury business management at OCBC in Singapore, shares his perspective on these challenges and the progress that is being made in addressing them.

> "We must not forget the objective of the IM regulations – to ensure counterparties with larger non-cleared derivatives exposures post adequate margin so a failure of one of these entities does not pose a systemic risk to the financial system. When we reach phase six, we have to ask whether the failure of one of these entities would pose a systemic risk"

Benoît Gourisse (BG): How would you describe the level of readiness in Singapore and the broader Asia-Pacific region for the cessation or non-representativeness of most LIBOR settings at the end of this year?

Frederick Shen (FS): There are disparities in readiness across Asia-Pacific. In Singapore, there is heightened awareness, thanks to the work of the Monetary Authority of Singapore (MAS) and the Association of Banks in Singapore (ABS) working groups related to the transition of SOR to SORA and the cessation of SIBOR. MAS has led the way with SORA cash instrument issuance, as well as banks executing SORA interest rate swaps up to five years. In addition, LCH has now extended SORA swap clearing for tenors up to 21 years, which will further facilitate interbank SORA swaps transactions and increase liquidity. These initiatives all assist with making the SORA market more liquid and transparent, easing the transition away from SOR.

With many financial institutions having adhered to the ISDA 2020 IBOR Fallbacks Protocol, it appears they are well prepared for IBOR transition by the end of this year, at least in the interbank market. On the customer side in Singapore, many banks have stopped offering SOR loans, which have been replaced with SORA. In fact, general awareness among larger corporates is improving, especially as they are now switching their facilities to SORA-based financing. However, the transition is not without difficulties as loan repapering needs to be completed and hedge accounting requirements must be considered.

Consistent communication to customers, investors (including bondholders and shareholders) and internal groups is critical to proactively manage conduct, reputation and operational risks and ensure appropriate compliance with disclosure requirements. The communications materials need to be part of a comprehensive IBOR transition programme.

A key impact for Asia will be related to US dollar LIBOR, as several domestic reference rates, including in Singapore and Thailand, are derived from US dollar LIBOR. The news that US dollar LIBOR in certain tenors will continue until June 2023 provides some welcome relief to many participants, but the reality is that US dollar LIBOR cessation will need to be addressed sooner or later. Some regulators have recognised the need to set a hard stop for new issuance referencing IBORs – for example, in the UK and Singapore – but new LIBOR contracts continue to be issued. MAS has recently issued a circular requiring financial institutions to cease issuance of new IBOR contracts by certain dates.

BG: How widely used are the RFRs identified as alternatives to LIBOR and other IBORs in the region? What steps could be taken to increase liquidity in these rates?

FS: As liquidity improves, we expect to see more and more transactions in the interbank market, as well as with corporate clients. →

"In Asia, most banks will be on the standardised approach as the cost-benefits of an IMA implementation are unlikely to be favourable for institutions with smaller trading floors. Even larger regional banks may stick with the standardised approach purely on a cost-benefit basis"

→ Information dissemination on IBOR transition has been proceeding well, with many banks holding client information sessions and providing impact analysis. Singapore has been very proactive, with MAS and the ABS taking the lead in phasing out SIBOR and SOR and promoting SORA as the alternative, along with MAS issuing SORA floating rate notes to create more SORA transparency and banks executing SORA swaps. In Singapore, a stated date by which new IBOR contracts must cease will also lead to increased liquidity in the SORA/RFR-linked markets. In Hong Kong, both HIBOR and HONIA will co-exist side-by-side.

BG: On September 1, phase-five IM requirements for non-cleared derivatives will come into effect, bringing hundreds of entities, many of which will be non-banks, into scope at once. How are you preparing for this deadline and do you think firms will be ready?

FS: OCBC was ready for the original phase-five deadline in September 2020, but implementation was postponed by one year due to the pandemic. We have initiated cleared derivatives execution agreement documentation with non-bank financial institutions for clearable derivatives. We are also progressing with ISDA IM credit support annex redocumentation with key counterparties.

As the non-cleared margin rules are a group-wide regulatory requirement, OCBC has redesigned and reoriented its processes to meet this regulation, with a new target operating model (TOM). This TOM provides more efficiencies with respect to group-wide collateral optimisation, IM threshold limit utilisation and monitoring, transaction netting sets and legal redocumentation requirements.

A key facet of the requirement is the $50 million IM threshold requirement before exchange of IM is required. This will help many in-scope counterparties for phases five and six, and will provide more leeway to implement solutions for non-cleared margin readiness.

As well as more than 300 counterparties coming into scope for phase five, more than 700 are expected to be caught by phase six. Many organisations are promoting outsourced IM maintenance and tracking solutions. As countries have different requirements for which firms need to meet the regulations, these outsourced solution providers present a cost-effective option for smaller counterparties caught in phases five and six.

We must not forget the objective of the IM regulations – to ensure counterparties with larger non-cleared derivatives exposures post adequate margin so a failure of one of these entities does not pose a systemic risk to the financial system. When we reach phase six, we have to ask whether the failure of one of these entities would pose a systemic risk. In Asia, there is the added consideration of fragmented regulatory regimes, as not all countries are progressing with the reforms at the same speed.

BG: How have initiatives such as the ISDA Standard Initial Margin Model (ISDA SIMM) helped industry participants with the implementation of the margin rules?

FS: The ISDA SIMM is an important initiative and has made the transition for each phase easier and more transparent for market participants. In addition, every bank uses the ISDA SIMM, which makes end-of-day reconciliations an easier process. A second aspect is that the ISDA SIMM has standardised the industry on the framework for classifying products to asset classes, as well as risk buckets, so there is a standard template for risks to be aligned and for margin to be computed in a simplified way. Second-order Greeks will undoubtedly complicate and extend the daily reconciliation process, thereby making it difficult to meet the daily service-level agreement to reconcile.

BG: The FRTB is due for implementation globally by January 2023. What challenges do you expect may arise during the implementation phase?

FS: Many Asian banks currently use the standardised approach (SA) for market risk capital and will look to remain on the revised SA, which is the global baseline that all banks must meet. This is not to say that some Asian banks with larger trading books will not aim for the internal models-based approach (IMA) on selected desks. However, the fragmented regulatory regimes in Asia may be a factor for Asian banks to remain on the FRTB-SA, particularly for the regional players that will need to meet both local and home-country requirements.

The main issues lie in the strict guidelines and tests that banks wanting to be on the IMA, wholly or selectively, will have to meet, including profit and loss attribution and backtesting. Data requirements continue to be a challenge in Asia, especially the clean traded prices required for IMA approval, along with the volume and variety of data for trading books. Some factors to consider will include volatile markets in Asia, a lack of transparency and liquidity in many markets, and the multitude of complex structured products popular in the region. Alongside the data-intensive requirements of the IMA, there are increasing computing challenges and computing capacity requirements, with many banks needing hardware and software upgrades from legacy trading and risk systems – but this is not unique to Asian banks.

For many Asian banks, it may seem that the market risk capital savings are not worth the expense, complexity and effort of using the IMA. Many banks, including OCBC, have completed proofs of concept to assess the feasibility and capital savings from selective use of IMA to guide their roadmap to FRTB go-live in 2023.

BG: ISDA has developed a benchmarking initiative to ensure consistency and accuracy in the implementation of standardised approaches under the FRTB and CVA. How important is it to benchmark a firm's standardised approach to an industry standard?

FS: Benchmarking studies are important and key to decision making and ensuring individual banks are interpreting and implementing the standardised regulatory rules in Basel III as intended. A swap between two counterparties should attract consistent and comparable capital usage across the two market participants.

The ISDA unit test achieves that purpose and is a helpful tool for banks in their implementation of the standardised approach. A side benefit of the unit test is that it will highlight possible implementation issues a bank may be having when compared to ISDA's golden source. While banks benefit from such studies and initiatives, the participation of regulators is equally important in seeing how home banks implement the standardised approach, easing the regulatory assessment and approval processes.

In Asia, most banks will be on the standardised approach as the cost-benefits of an IMA implementation are unlikely to be favourable for institutions with smaller trading floors. Even larger regional banks may stick with the standardised approach purely on a cost-benefit basis.

BG: What do you value most about the role ISDA plays in derivatives markets in the Asia-Pacific region?

FS: The continuing regulatory changes pose a major challenge to all banks and we see continuing competition for key resources, including technology, human capital and budget. This is all happening during the ongoing coronavirus pandemic, which has affected timelines. ISDA plays a key role in connecting all the banks and non-bank financial institutions, standardising documentation, improving processes and leading on the digital front. ISDA has taken the lead by working closely with regulators and market participants on many key initiatives, including the non-cleared margin rules, IBOR fallbacks and FRTB benchmarking initiatives. IQ

Introducing THE SWAP

ISDA's podcast series, The Swap, features senior market practitioners and policy-makers who share their views on key issues in financial markets and derivatives

LATEST EPISODE!

Resilience by Margin

Episode 11 – June 30, 2021 – Listen in full: **bit.ly/3qC92oV**

The requirement to post initial margin for non-cleared derivatives was one of the main post-financial crisis reforms. ISDA CEO Scott O'Malia reflects on the impact and challenges of the requirements, with insights from the Ontario Teachers' Pension Plan and BNP Paribas Securities Services.

"Digital really is the key word. I do believe we need to digitise and automate the onboarding process a lot more. Exchanging all the documentation by email is so tedious, and quite risky actually"
Jérôme Blais, BNP Paribas Securities Services

Adapting to Change

Episode 10 – May 27, 2021 – Listen in full: **bit.ly/3dysFZx**

Market participants face a huge number of changes, from the death of LIBOR to adapting to the post-Brexit landscape. Sian Hurrell, head of global sales and relationship management at RBC Capital Markets, gives her views.

Investing in Innovation

Episode 9 – April 9, 2021 – Listen in full: **bit.ly/3hsDI7V**

Technological innovation could transform derivatives markets, but how do you identify technologies with true potential? Industry veteran Mark Beeston, founder and partner at Illuminate Financial, shares his perspective.

Diversity and Derivatives

Episode 8 – March 4, 2021 – Listen in full: **bit.ly/3xa2T5M**

The financial industry has increased its focus on improving gender diversity in the workforce in recent years, but there is still a long way to go. PIMCO's Tracey Jordal and Amanda Pullinger from 100 Women in Finance give their perspectives.

Brexit: Moving to Strategic Rivalry

Episode 7 – February 1, 2021 – Listen in full: **bit.ly/2MCiJUB**

What has the end of the Brexit transition period meant for derivatives markets? Is CCP and/or trading venue equivalence between the EU and UK on the cards? Donald Ricketts, head of financial services at FleishmanHillard, gives his thoughts.

Derivatives and Sustainable Finance

Episode 6 – January 6, 2021 – Listen in full: **bit.ly/3jggNx3**

As sustainable finance rises up the agenda around the world, ambitious targets are being set to support the transition to a green economy. Bob Litterman, founder of Kepos Capital, shares his perspective.

2021: Benchmarks, Biden and Brexit

Episode 5 – December 15, 2020 – Listen in full: **bit.ly/3q0K81f**

After a year that saw a global pandemic, a US election and ongoing negotiations over a post-Brexit trade deal between the EU and UK, D. E. Shaw's Darcy Bradbury and Société Générale's Eric Litvack look back on 2020 and consider what 2021 has in store.

All episodes of **The Swap**, are available on the ISDA website, Apple Podcasts, Spotify and other podcast platforms

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

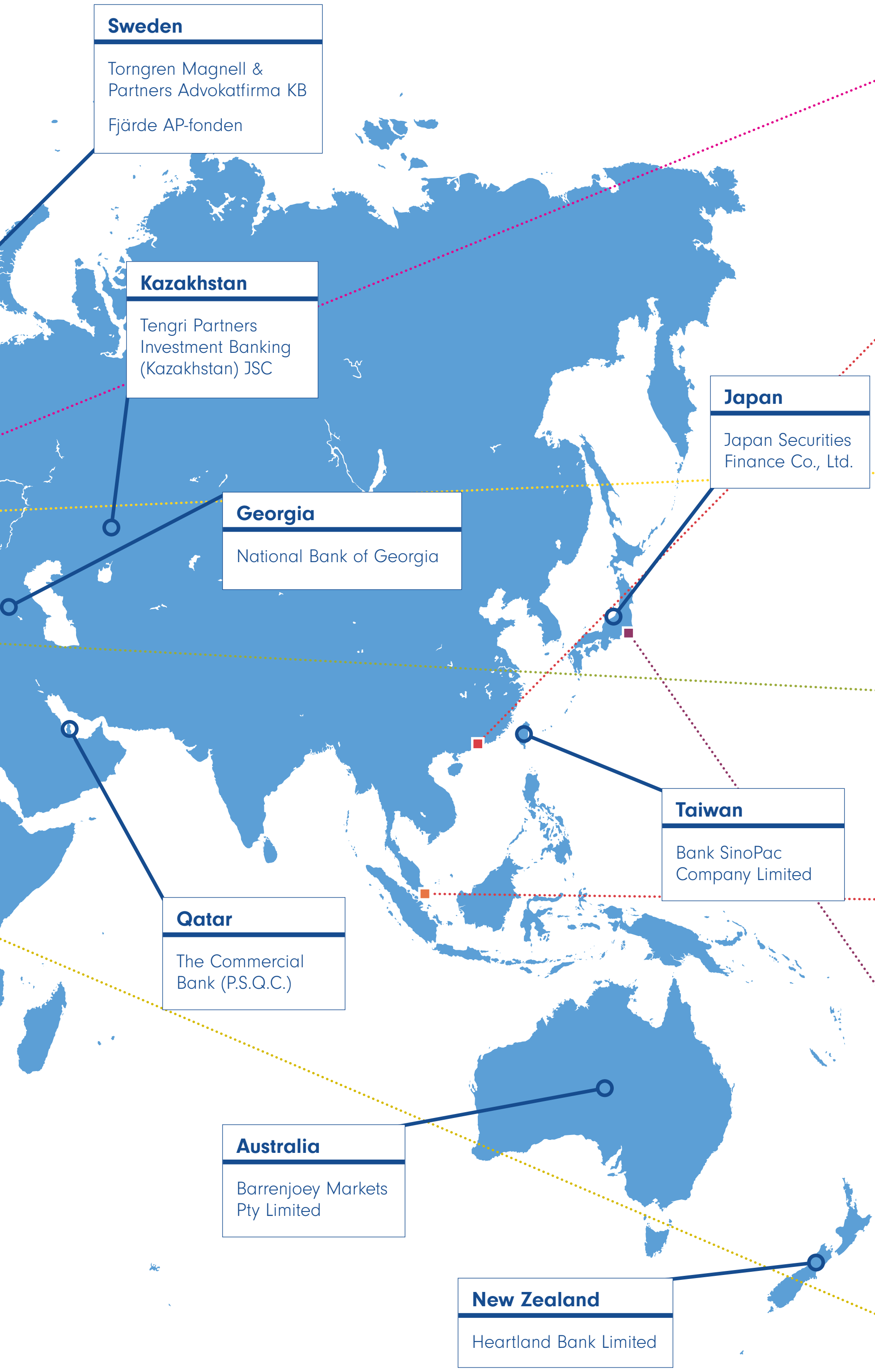
Advancing practices related to trading, clearing, reporting and processing of transactions in order to enhance the safety, liquidity and transparency of global derivatives markets

www.isda.org

NEW ISDA MEMBERS

A big welcome to all new members that joined ISDA in the first and second quarters of 2021. We look forward to working with you in future

For additional information on joining ISDA, please visit the ISDA Membership



Portal at **https://membership.isda.org/**

OFFICE LOCATIONS

BRUSSELS

2nd floor, Square de Meeûs 5/6
1000 Brussels
Belgium
Phone: 32 (0) 2 808 8013
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

LONDON

25 Copthall Avenue, 3rd Floor
London EC2R 7BP
United Kingdom
Phone: 44 (0) 20 3808 9700
Fax: 44 (0) 20 3808 9755
isdaeurope@isda.org

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

SINGAPORE

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

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

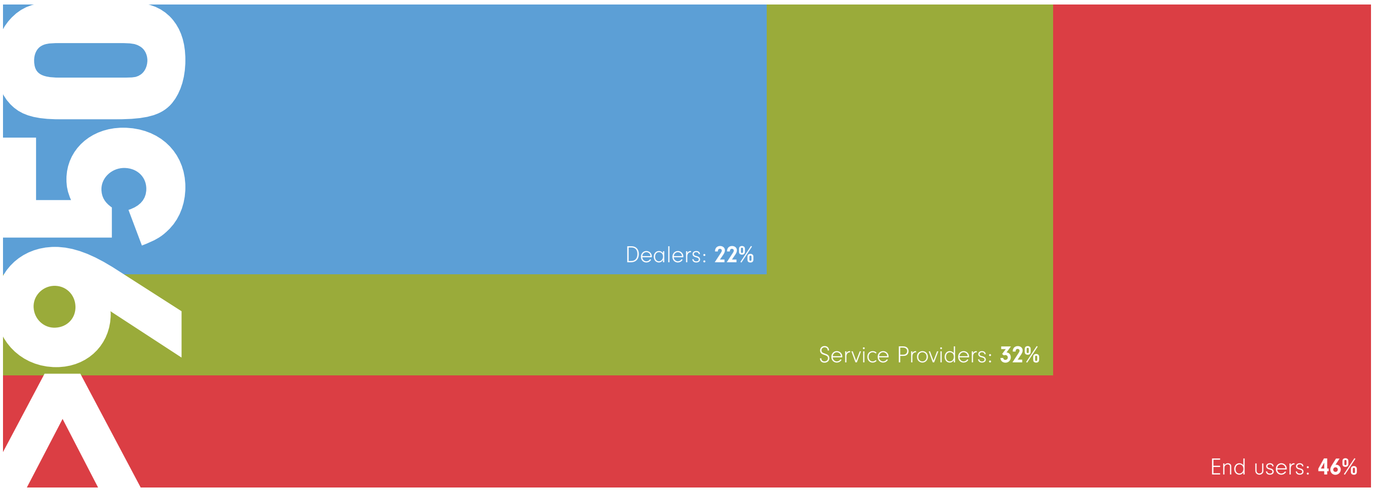
WASHINGTON

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

MEMBERSHIP INFORMATION

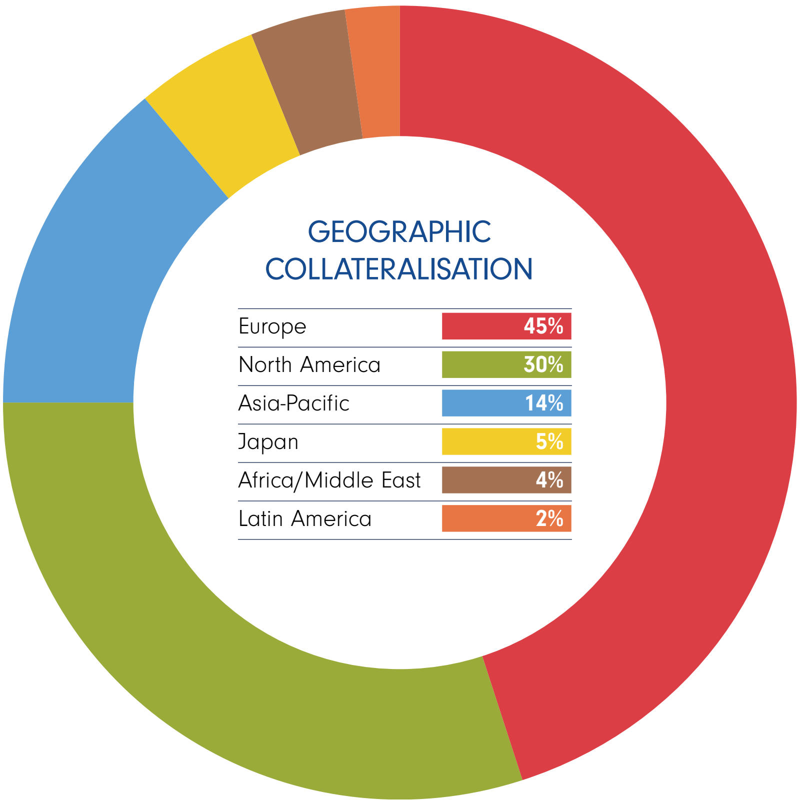
ISDA has over 950 member institutions from 76 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. 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	9%
Government Entities	13%
Energy/Commodities Firms	7%
Diversified Financials	5%
Other	13%



GEOGRAPHIC COLLATERALISATION

Europe	45%
North America	30%
Asia-Pacific	14%
Japan	5%
Africa/Middle East	4%
Latin America	2%

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

BOARD OF DIRECTORS

OFFICERS

Eric Litvack, Chairman
Managing Director, Group Director of Public Affairs
Société Générale

Axel van Nederveen, Vice Chairman
Managing Director, Treasurer
European Bank for Reconstruction and Development (EBRD)

Jack Hattem, Secretary
Managing Director, Global Fixed Income
BlackRock

Darcy Bradbury, Treasurer
Managing Director
D. E. Shaw & Co., L.P.

DIRECTORS

Thijs Aaten
Chief Finance and Risk Officer
APG Asset Management Asia

Marc Badrichani
Head of Global Sales & Research
J.P. Morgan

Gesa Benda
EMEA Head of CCM and Global Head of Product Strategy - Clearance and Collateral Management (CCM)
BNY Mellon

Biswarup Chatterjee
Managing Director, Head of Innovation, Global Markets
Citigroup

Christine Cremel
Managing Director, Head of Onboarding, Transaction Management & Clearing
Credit Agricole CIB

Tina Hasenpusch
Managing Director, Global Head of Clearing House Operations
CME Group

Amy Hong
Head of Market Structure and Strategic Partnerships
Goldman Sachs & Co. LLC

Sian Hurrell
Head of Global Sales and Relationship Management & Head of FICC Europe
RBC Capital Markets

Dixit Joshi
Group Treasurer
Deutsche Bank AG

Jeroen Krens
Managing Director, Credit, Rates & Emerging Markets
HSBC Bank Plc.

ISDA EXECUTIVES

OFFICE OF THE CEO

Scott O'Malia
Chief Executive Officer

Katherine Tew Darras
General Counsel

Steven Kennedy
Global Head of Public Policy

Mark Gheerbrant
Global Head of Risk and Capital

Tara Kruse
Global Head of Infrastructure, Data and Non-cleared Margin

SENIOR EXECUTIVES

Clive Ansell
Head of Market Infrastructure and Technology

Ann Battle
Assistant General Counsel & Head of Benchmark Reform

Amy Caruso
Head of Collateral Initiatives

Roger Cogan
Head of European Public Policy

Huzefa Deesawala
Chief Financial Officer

Panayiotis Dionysopoulos
Head of Capital

Benoît Gourisse
Head of Public Policy, Asia Pacific

Jing Gu
Head of Asia, Legal

Marisa Irurre Bauer
Head of Conferences

Ulrich Karl
Head of Clearing Services

Michael Leonard
VP, Refining & Products Trading Europe & Africa
BP Trading & Shipping

Daniel Maguire
Group Head, Post Trade, LSEG and CEO, LCH Group
London Stock Exchange Group

Erik Tim Mueller
Chief Executive Officer
Eurex Clearing AG

Andrew Ng
Group Executive & Head of Treasury and Markets
DBS Bank

Taihei Okabe
Managing Director, Head of Derivatives Trading
Mizuho Securities Co., Ltd.

Scott O'Malia
Chief Executive Officer
ISDA

Emmanuel Ramambason
Financial Markets Global Head for Portfolio Risk Management
Standard Chartered Bank

Duncan Rodgers
Managing Director, Head of ALM Strategy
UBS AG

Marc Seidner
Managing Director, Chief Investment Officer
PIMCO

Michael Stanley
Co-head of Global Rates & Counterparty Portfolio Management
Bank of America

Nat Tyce
Managing Director, Head of Macro Trading for Europe, the Middle East and Asia Pacific
Barclays

Hideki Ushida
Managing Director, Global Markets Internal Control Office
MUFG Bank, Ltd.

Emmanuel Vercoustre
Deputy CEO & CFO
AXA Bank Europe

Jacques Vigner
Chief Strategic Oversight Officer for Global Markets
BNP Paribas

Tom Wipf
Vice Chairman of Institutional Securities
Morgan Stanley

Olivier Miart
Head of Analytics

Dillon Miller
Chief Technology Officer

Alan Milligan
Head of Data and Digital Solutions

Tomoko Morita
Senior Director and Head of Tokyo Office

Mark New
Senior Counsel, Americas

Olga Roman
Head of Research

Bella Rozenberg
Senior Counsel & Head of Regulatory and Legal Practice Group

Rick Sandilands
Senior Counsel, Europe

Nick Sawyer
Global Head of Communications & Strategy

Colleen Tabala
Global Head of Human Resources

Peter Werner
Senior Counsel (Legal Infrastructure and Law Reform)

Chris Young
Head of US Public Policy

Liz Zazzera
Head of Membership

ISDA® Conf

ISDA's wide selection of training events and conferences is designed to deliver a valuable mix of education, analysis and sharing of best practice to ensure derivatives professionals at all levels can stay up to speed on fast-moving industry issues

With CLE, CPE and CPD credits available on many events, market participants can meet in-house educational requirements and continue their professional development on specialist derivatives issues, wherever they are in the world.

Available on **ISDA's virtual conference platform**, delegates can watch live or catch up later at their convenience. With **in-person events returning in the fourth quarter**, participants will also soon have the option to physically attend and network with other like-minded professionals.

Visit **isda.org/events** for more information

CURRENT EVENT LISTINGS

Event	Live Broadcast	Information
ISDA Legal Opinion Developments	July 6	bit.ly/3x7W98E
Understanding the ISDA Master Agreements (Japan)	July 15/16	bit.ly/3wb4VS1

STILL AVAILABLE ON CATCH UP

Event	Available Until	Information
Benchmark Strategies Forum Japan	July 10	bit.ly/3h0oCaz
EU/UK Derivatives Business (Post-Brexit)	July 15	bit.ly/3A6hGQL
Understanding the ISDA Master Agreements	July 16	bit.ly/3A9H8Fg
Negotiating the Schedule to the ISDA Master Agreement	July 17	bit.ly/360BveB
Derivatives Trading Forum: Political Change and the Pandemic	July 29	bit.ly/3vYs9dL
Regulatory Reporting	July 30	bit.ly/2SxYMI1

AVAILABLE ANYTIME ON DEMAND

Event	Information
Fundamentals of Derivatives	bit.ly/3jnc8eW
Derivatives Products Overview	bit.ly/35XTP88
Introduction to Equity Derivatives	bit.ly/3h0oR5J
Understanding the ISDA Master Agreements	bit.ly/3hbcO4c
ISDA Master Agreement and Credit Support Annex: Negotiation Strategies	bit.ly/3dITUq5
Negotiation Strategies: Paragraph 13 of the 2018 Credit Support Annex for Initial Margin	bit.ly/3A8pn8Y

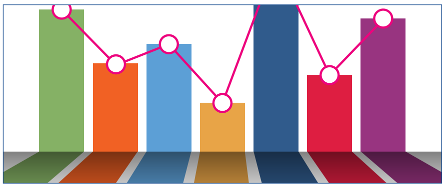
@ISDAConferences linkedin.com/company/isda @ISDA.org

erences

Coming Soon

BENCHMARKS STRATEGIES FORUM – PART III

September: With a just a few months to go until the end of 2021, when 30 LIBOR settings will either cease or become non-representative, what issues still need to be resolved? Which alternative rates are gaining traction, and how are regulators and market participants dealing with tough legacy exposures? This series of events looks at the remaining challenges and considers how firms are dealing with them. **Free to attend**.



DERIVATIVES TRADING FORUM – PART III

September: How are trading firms and venues adapting to increased interest from regulators and investors on climate change and environmental, social and governance (ESG) issues? This event will explore liquidity in ESG-linked products, indices and derivatives, as well as the expected regulatory and legislative changes that could impact this market. **Free to attend**.

THE 2021 ISDA INTEREST RATE DERIVATIVES DEFINITIONS

September: Get to grips with the 2021 ISDA Interest Rate Derivatives Definitions ahead of the October 4 implementation date. This event will delve into key changes between the 2006 and 2021 Definitions, including amendments to the cash settlement provisions and the role of the calculation agent, as well as implementation considerations.

ISDA REGIONAL EVENTS 2021

October: The ISDA Regional Events are back for 2021, giving derivatives market participants the opportunity to learn about global issues but with a local slant. The four events – focused on North America, Europe, Asia-Pacific and Japan – will bring delegates cutting-edge intelligence and analysis on key industry topics, as well as exclusive insights from leading regulators and senior market leaders in those regions. Broadcast virtually, delegates will also have the option to attend in-person in New York and London.

More information on dates and how to attend will be available shortly on the ISDA website.

SPONSORSHIP

Explore ISDA's wide range of sponsorship options and ensure your brand has high-profile exposure to a targeted audience of derivatives professionals.

Contact **Rob Saunders**, Business Development Manager: **RSaunders@isda.org** | **+44 (0)20 3808 972**

Visit **isda.org/events** for complete complete up-to-date conference listings

*

"We're making the conditions for leaving paper behind, which is a subtle but major change for the future that will enable the industry to further streamline processes and reduce costs"

Eric Litvack, ISDA