INTERVIEW
The CFTC's Dawn Stump on cross-border coordination

MARGIN
Impact of the phase-five IM delay

CAPITAL
Analysing CVA capital requirements

IQ

ISDA® Quarterly

Vol 5, Issue 3: August 2019 | www.isda.org

*THE ROAD AHEAD

Trading volumes in products linked to risk-free rates are picking up, as work continues to build liquid alternatives to the IBORs

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

A Big Milestone

As milestones go, a consultation on technical adjustments to fallback rates may not be the most obvious. In fact, it's a big one. With the latest consultation now closed, work can move forward on finalising and implementing those new fallbacks into derivatives contracts, reducing the systemic threat of a permanent discontinuation of LIBOR and other interbank offered rates (IBORs).

Market feedback has now been sought on nine key IBORs in total, including US dollar LIBOR. As with the first consultation last year, the latest asked market participants to opine on possible methodologies to adjust for structural differences between the IBORs and the risk-free rates (RFRs) that will replace them if a fallback is triggered.

Now that's done, work can progress on fleshing out the parameters and mechanics of the chosen adjustment methodologies – analysis and questions soliciting feedback on open issues will be published for comment in the coming weeks. Following a request for proposal earlier this year, ISDA has also now chosen an independent service provider to calculate and publish the adjustments.

Ultimately, the ISDA definitions are expected to be amended before the end of the year to implement fallbacks for the nine IBORs subject to consultation so far. An ISDA protocol will also be developed to enable firms to adapt legacy derivatives contracts.

There's still work to do. A consultation on adjustments to the fallback for euro LIBOR and EURIBOR will be held after the alternative RFR for euro, €STR, is published in October. There also remains an enormous amount of work to shift the market away from its use of LIBOR and other IBORs and to develop trading activity and liquidity in the alternative RFRs before the end of 2021. Given the adjusted fallback will not match the relevant IBOR exactly – meaning there will be winners and losers if the fallback is triggered – voluntary adoption of RFRs before any permanent cessation of an IBOR will be the preferable route for many.

Nonetheless, the progress made on fallbacks is critical – and the end is in sight. This is a big step towards ensuring derivatives markets are safer and more efficient by ensuring a robust backup is in place if an IBOR permanently ceases to exist.

Nick Sawyer
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

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

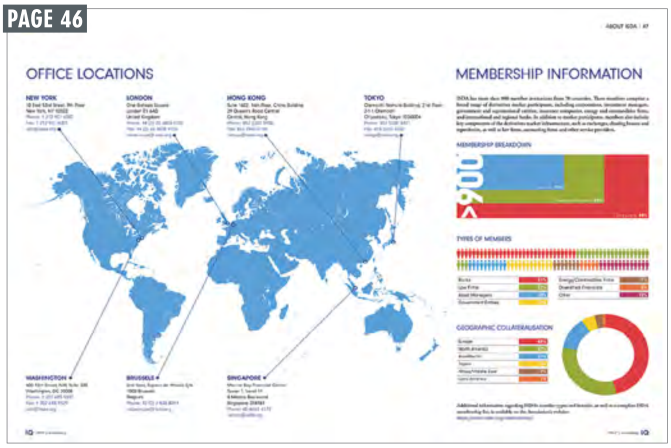
IQ: ISDA Quarterly is an official publication of ISDA. Statements of fact and opinion expressed are not intended as endorsements.

CONTENTS

REGULARS

PAGE 26

PAGE 46



ALSO IN THIS ISSUE

Volume 5, Issue 3: August 2019

THE COVER PACKAGE

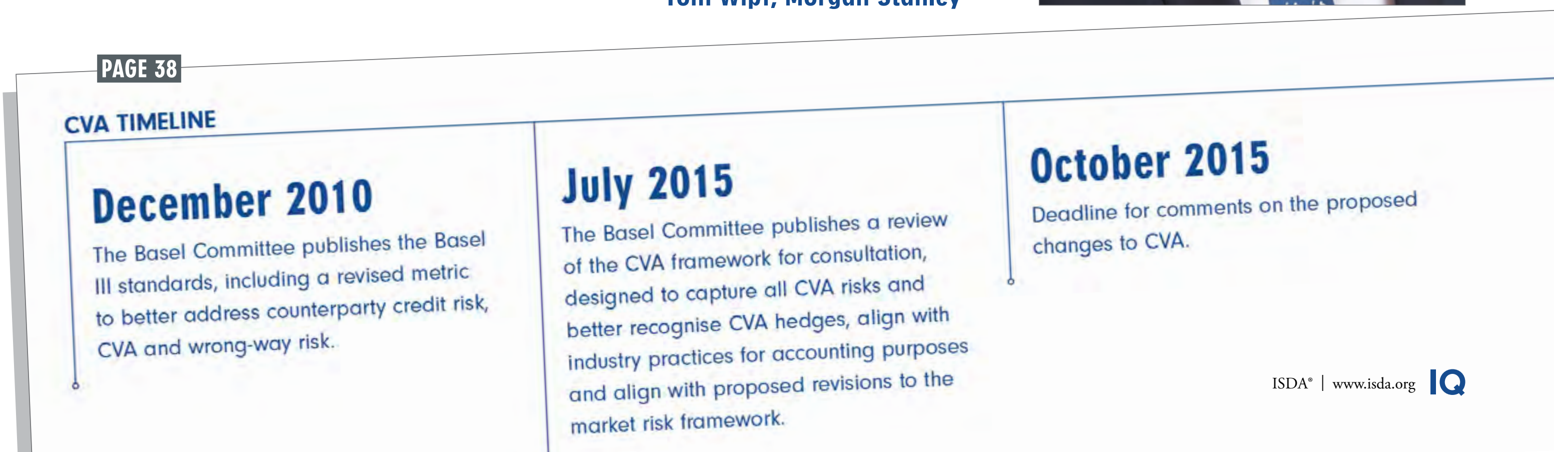
THE ROAD AHEAD

PAGE 22

"This is an unprecedented risk management challenge, and 2019 is a mission-critical year"

Tom Wipf, Morgan Stanley

PAGE 38



Better Together

*The derivatives industry continues to wrestle with several extensive projects, but progress has been made thanks to a variety of industry solutions, writes **Scott O'Malia***

According to the old adage, a problem shared is a problem halved. That's just as true for derivatives markets as anything else. In fact, with the industry facing several complex, multidimensional challenges at once, it is difficult for anyone to go it alone. Far better to come together to devise common solutions to issues everyone faces.

One emerging challenge is the adoption of the standardised approach for calculating market risk capital under the Fundamental Review of the Trading Book (FRTB-SA). Most banks will have to implement the FRTB-SA and report the results, even if they also intend to use internal models. The question is how to ensure each firm implements the regulations and develops its standardised model in a way that is consistent and comparable with others.

For some time now, ISDA has been working with a number of banks active in the UK on an initiative to support accurate and efficient implementation of the FRTB-SA. This will help ensure banks – and regulators – can take comfort that they are meeting best practices in their implementations. The next step will be to extend this service to other geographies and other parts of the capital framework – for instance, the standardised approach for counterparty credit risk and credit valuation adjustment.

"For some time now, ISDA has been working with a number of banks active in the UK on an initiative to support accurate and efficient implementation of the FRTB-SA"

In many respects, this project is analogous to our work on the ISDA Standard Initial Margin Model (ISDA SIMM). Using a single, global model for calculating margin ensures consistency and transparency, and cuts down on the potential for disputes. It also reduces running costs – firms don't have to develop and maintain their own models. Instead, ISDA conducts quarterly monitoring to analyse performance and runs annual calibration, back-testing and benchmarking exercises to ensure regulatory compliance.

The ISDA SIMM is just one example of where ISDA has worked with members to develop global solutions for initial margin (IM) that help firms apply the rules in a consistent and effective way. This includes standard ISDA IM documentation and ISDA Create, an online platform that allows users to negotiate and execute IM documents with multiple parties simultaneously.

This is alongside a broader initiative to standardise and automate collateral and other post-trade processes. Expect to hear more about this later in the year – this is now a big priority for ISDA. We believe this project will help reduce operational risk, improve counterparty risk management and lower costs.

Part of the answer lies with the launch of the ISDA Common Domain Model (ISDA CDM), which establishes standard conventions for how derivatives trade events and processes are represented. We went live with the full version for interest rate and credit derivatives in March, and we're now talking to a number of organisations about deployment. Most recently, the ISDA CDM was used to support the UK Financial Conduct Authority, the Bank of England and participating financial institutions in testing phase two of the digital regulatory reporting pilot for derivatives in the UK. Using the ISDA CDM will help ensure the same regulatory information is collected and reported in the same way across the industry.

Of course, it's difficult to talk about common industry challenges without touching on benchmarks. To help mitigate the risk of a permanent cessation of a key interbank offered rate, ISDA and its members have been working to strengthen fallback language for derivatives contracts. The latest batch of consultations closed on July 12, and we expect to publish amended definitions that will implement the fallbacks for new trades in the fourth quarter. We'll also publish a protocol to allow firms to modify their legacy trades to include the fallbacks. We expect the implementation date to be early 2020.

Whether it's the FRTB, margin or benchmarks, there is simply no competitive advantage for individual firms to develop their own solutions. When it comes to solving common industry problems, we are better off working together.

Scott O'Malia
ISDA Chief Executive Officer

Opportunity Exists to Improve Rules, Says O'Malia

The reauthorisation of the Commodity Exchange Act (CEA) presents an opportunity for the US Congress and regulators to review the regulatory framework for derivatives and potentially recalibrate certain US requirements to ensure they support their original objectives and have been implemented in a cost-effective manner, according to Scott O'Malia, ISDA's chief executive.

In written testimony on the CEA reauthorisation, submitted to the US Senate Committee on Agriculture, Nutrition and Forestry on June 25, O'Malia highlighted the significant progress made in implementing regulatory reforms, noting that the derivatives market is more transparent and more resilient as a result. However, there are numerous examples of where the rules have led to inefficiencies and higher costs for derivatives users, he added.

"It is important to state clearly that we are not advocating turning the clock back on regulatory reform, nor do we believe there would be any support in the industry for such a move. However, we do think it is appropriate for the regulatory framework to be continually assessed, and for specific, targeted changes to occur where necessary to ensure the rules do not impose unnecessary costs and burdens on derivatives users," O'Malia wrote.

Requirements for the posting of initial margin (IM) between affiliates is one area where review is necessary, O'Malia stated. Inter-affiliate trades enable firms to centralise their risk management activities. These internal risk management transactions allow organisations to manage their risk within a single risk function that ultimately limits overall credit exposure to third parties.

Most global regulators, including the Commodity Futures Trading Commission, provide an exemption for inter-affiliate swaps from IM requirements, but US prudential regulators have not. "This disparate treatment creates a competitive disadvantage for those entities subject to inter-affiliate requirements under US prudential rules," O'Malia wrote.

Another margin related issue involves the supplementary leverage ratio. Under current US rules, the exposure-reducing effects of IM are not taken into account, which significantly impacts the economics of client clearing.

The Basel Committee on Banking Supervision announced on June 20 that it had agreed a targeted and limited revision of the leverage ratio to allow margin received from a client to offset the exposure amounts of client-cleared derivatives. However, it is important legislators monitor how US regulators respond to this issue, O'Malia wrote in his testimony.

The regulatory reporting framework is another example of where derivatives users are exposed to excessive operational burdens and costs. While reporting standards have been introduced in 21 of the 24 Financial Stability Board countries, firms are required to meet idiosyncratic reporting formats and data fields in each jurisdiction.

"This imposes a significant compliance burden on end users and is self-defeating – it makes it all but impossible for global regulators to quickly and accurately aggregate exposures across derivatives instruments," O'Malia stated.

While work has been conducted by international standard setters to create common data standards, "the pace of reform has been slow and incremental", wrote O'Malia.

The testimony also highlights the complexities and costs posed by regulatory fragmentation, both on an international and domestic basis. Despite a commitment by the Group-of-20 nations to implement derivatives regulatory reforms in a way that ensures a level playing field and avoids fragmentation of markets, the rules have often differed in scope, substance and timing across jurisdictions. This has resulted in derivatives users facing significant costs and the regulatory compliance challenge of having to meet multiple rule sets.

"We do think it is appropriate for the regulatory framework to be continually assessed, and for specific, targeted changes to occur where necessary to ensure the rules do not impose unnecessary costs and burdens on derivatives users"

Scott O'Malia, ISDA

In response, ISDA has proposed a risk-based framework to determine the comparability of derivatives regulatory regimes in foreign jurisdictions. This should be developed alongside an internationally agreed process for national regulators to implement equivalence and substituted compliance determinations in a predictable, consistent and timely manner.

"Rather than attempting the impossible task of aligning each and every regulatory requirement across jurisdictions, this approach would allow substituted compliance determinations to be based on broad outcomes. It would reduce the chances of lengthy negotiations that could ultimately lead to reduced liquidity and fragmentation," O'Malia noted. IQ

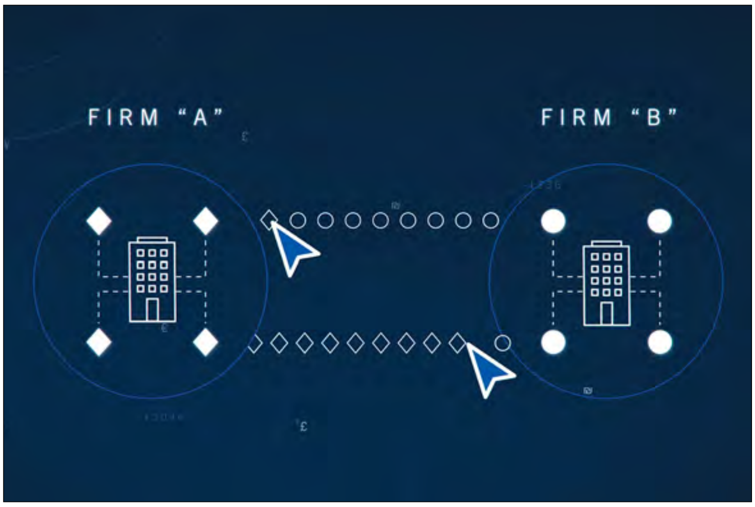
The full testimony can be viewed at https://bit.ly/2X3dMUf

ISDA CDM Deployed in Digital Regulatory Reporting Pilot

The ISDA Common Domain Model (ISDA CDM) has been rolled out to support the UK Financial Conduct Authority, the Bank of England and participating financial institutions in testing phase two of the digital regulatory reporting (DRR) pilot for derivatives.

The DRR is a UK initiative to explore the use of technology to help firms meet their regulatory reporting requirements and to improve the quality of information reported. The aim is to explore the feasibility of a model-driven and machine-readable regulatory environment that could transform how the financial services industry understands, interprets and reports regulatory information.

Phase two of the DRR pilot began earlier this year, and follows the first phase in 2018. Two regulator-hosted 'tech sprints' in 2016 and 2017 on regulatory reporting preceded this work. The collaboration will contribute to the objective of understanding how the DRR approach scales across multiple regulatory domains.



Watch an introductory video on the ISDA CDM: https://bit.ly/2JiAscU

"We're excited to be involved in this vital industry initiative. By establishing a common set of representations for derivatives events and processes, the ISDA CDM will promote transparency and alignment between regulators and market participants. Importantly, it will ensure the same information is collected and reported in the same way across the industry," said Ian Sloyan, director, market infrastructure and technology, at ISDA.

The ISDA CDM is the first industry solution to tackle the lack of standard conventions in how derivatives trade events and processes are represented. Developed in response to regulatory changes, high costs associated with current manual processes and a demand for greater automation across the industry, the ISDA CDM for the first time creates a common blueprint for events that occur throughout the derivatives lifecycle, paving the way for greater automation and efficiency at scale.

The deployment of the ISDA CDM as part of the DRR is intended to help understand the feasibility of firms meeting both position-based and transaction-based reporting requirements from the same trade data, and harmonise reporting triggers so firms report the same information at the same time. IQ

Version 2.0 of the ISDA CDM is available here: https://bit.ly/2YwlKK1

Bloomberg Selected as Fallback Adjustment Vendor

Bloomberg Index Services Limited (BISL) has been selected to calculate and publish adjustments related to fallbacks that ISDA intends to implement for certain interest rate benchmarks in the 2006 ISDA definitions.

Bloomberg was chosen following an in-depth selection process, which began with a public invitation to tender published in February. The process was run by ISDA and included input from a selection committee with representation from buy- and sell-side market participants.

The adjustments reflect the fact that interbank offered rates (IBORs) are available in multiple tenors, while the risk-free rates (RFRs) identified as fallbacks are overnight rates. The IBORs also incorporate a bank credit risk premium and a variety of other factors, while RFRs do not. A third-party service provider was sought to ensure the adjustments are calculated in a fair and independent manner, based on the methodology chosen following various industry consultations.

The adjustments are expected to be published after the methodologies are finalised and before the new fallbacks apply to ISDA's amended definitions. ISDA currently expects the fallbacks to take effect in early 2020.

The calculation will be managed by BISL, which is awaiting authorisation from the UK Financial Conduct Authority to become a benchmark administrator under the European Union Benchmarks Regulation. Further details will be available before the adjustments are published. IQ

FSB, IOSCO Explore Ways to Address Market Fragmentation

The Financial Stability Board (FSB) and the International Organization of Securities Commissions (IOSCO) have committed to further work to tackle regulatory driven market fragmentation after publishing reports on the issue on June 4. During Japan's presidency of the Group-of-20 (G-20) nations this year, officials have pledged to address fragmentation as a priority issue.

The FSB report was presented to G-20 finance ministers and central bank governors ahead of their meetings in Fukuoka in early June, and identified several areas for further work to address market fragmentation. The IOSCO report also proposed measures that relevant agencies could explore to mitigate the risk and potential adverse effects of fragmentation.

"Since the financial crisis, well-intentioned regulatory implementation has sometimes led to unintended fragmentation of markets. In the spirit of the G-20 leaders in Pittsburgh, this report welcomes the advances made by regulators in deferring to one another but encourages us towards further, smoother, cross-border collaboration," said Jun Mizuguchi, deputy commissioner for international affairs at the Japan Financial Services Agency and co-chair of the IOSCO work on market fragmentation.

The IOSCO report, *Market Fragmentation & Cross-border Regulation*, noted that deference between regulators through the use of cross-border regulatory tools has increased significantly. However, challenges remain, and strengthening cooperation between regulatory authorities could assist in addressing the effects of market fragmentation.

Measures to foster better understanding of legislative frameworks might include IOSCO making greater use of its regional committees to allow regulators to discuss cross-border regulatory issues and develop knowledge of one another's markets and legislative frameworks. IOSCO is also building a central repository of supervisory memoranda of understanding to provide more transparency for regulators and market participants.

The FSB report identified different examples of market fragmentation, and discussed linkages between fragmentation and financial stability. Areas identified for further work include exploring ways to enhance the clarity of deference and recognition processes in derivatives markets and improving supervisory communication and information sharing. The FSB intends to review progress on this work in November 2019.

Regulatory driven market fragmentation has been a key policy priority for the derivatives industry for some time. In January 2019, ISDA published a report that outlined several ways to reduce fragmentation, including the implementation of a risk-based framework for the evaluation and recognition of the comparability of derivatives regulatory regimes.

"Cross-border harmonisation is an issue that is very important for ISDA, and we've long highlighted the importance of global consistency. That's not to say all rules need to be identical in every jurisdiction. We recognise there may be legitimate reasons to deviate in certain areas to suit local market characteristics and the pace of development. But there are cases where divergences only create unnecessary compliance costs for end users and fragmentation in markets," said ISDA chief executive Scott O'Malia, speaking at ISDA's annual general meeting (AGM) in Hong Kong on April 10.

> "There are cases where divergences only create unnecessary compliance costs for end users and fragmentation in markets"
> **Scott O'Malia, ISDA**

Other participants at the AGM discussed instances of fragmentation in the derivatives markets and considered possible solutions. Patrick Pearson, head of financial market infrastructures and derivatives at the European Commission, highlighted the importance of deference, where foreign firms are allowed to operate under their own national rules. However, there is an important caveat, he added.

"There is a limit to this type of deference and that is financial stability. It is the central banks that can monitor this and they need a finger on the button of financial stability. That's the only line to deference that we're prepared to look at, otherwise we strongly believe in full deference."

With both the FSB and IOSCO set to review progress and decide on the next steps in their work on fragmentation during the second half of 2019, ISDA and the industry remain closely focused on the issue, particularly given the possible impact of Brexit on cross-border harmonisation of trading and clearing rules.

"Ten years on from the G-20 commitments, it's time this issue was resolved," said O'Malia. "That's why we welcome the focus on this issue by the Japanese presidency of the G-20. The industry has done its bit to implement the regulatory reform agenda. We now need to work with regulators to ensure the market is able to function efficiently on a global basis, and can continue to support economic growth," said O'Malia. IQ

ISDA AGM Highlights Importance of Netting

The enforceability of close-out netting will be essential to support growth of Asia's derivatives markets in the coming years, according to participants at ISDA's annual general meeting (AGM), which was held in Hong Kong in April 2019.

Netting is critically important in mitigating credit risk, allowing parties to combine their obligations into a single net payment in a default scenario. In a survey conducted by ISDA prior to the AGM, netting was ranked as the most critical factor determining the future pace of growth of derivatives trading in Asia.

"Close-out netting is the single most important risk-mitigation tool in derivatives markets. We believe the enforceability of close-out netting creates more certainty for financial institutions and encourages more participation in local markets," said Scott O'Malia, chief executive of ISDA.

Three of the fastest growing markets in Asia – China, India and Indonesia – do not yet have legal certainty on netting, although authorities in each jurisdiction have taken steps towards changing this. While it is not clear exactly when close-out netting will be recognised, recent developments in those markets indicate positive progress.

To watch ISDA's latest whiteboard animation, which explains the importance of close-out netting, visit https://bit.ly/2K1KJf1

"It is forecast that seven emerging markets will be in the top 10 global economies by nominal GDP by 2030. China, India and Indonesia are expected to be in the top five. If these countries' derivatives markets are to keep pace with their economies, they will need netting certainty. We are encouraged by the progress we have seen, but more needs to be done," said O'Malia.

During a panel discussion at the AGM, Axel van Nederveen, treasurer at the European Bank for Reconstruction and Development and vice-chairman of ISDA, highlighted the importance of netting enforceability for market participants.

"One of the things we do a lot is try to help in derivatives law reform, because without close-out netting in particular, risks will stack up and grow so quickly that it's actually very difficult for people to manage their counterparty risk," van Nederveen explained.

Beyond the ongoing work in China, India and Indonesia, ISDA has made constructive progress on netting in numerous frontier markets, including Saudi Arabia, Bahrain, Vietnam, Ghana, Nigeria, Panama and Latvia. "ISDA will remain as proactive as ever on this critical issue," said O'Malia. "We recognise how important this is to the future of the entire market." IQ

Opinion: Trade Local, Manage Global

ISDA is a big supporter of a globally consistent, risk-based regulatory framework. Unfortunately, it hasn't always worked out like that. Initial margin (IM) requirements for inter-affiliate derivatives transactions are a case in point. The obligation only exists in the US at present, and even then not by all regulators in that jurisdiction.

This matters because inter-affiliate trades are used by firms to centralise their risk management activities. These internal risk management transactions do not create new counterparty exposures outside the corporate group – in fact, centralising all the risk in a single risk function creates efficiencies and ultimately limits credit exposure to third parties.

Many global regulators recognise this, including the US Commodity Futures Trading Commission, which, under both a Democratic and Republican chair, have maintained exemptions for inter-affiliate trades in their IM rules. This bipartisan support also extends to Congress, where both Republicans and Democrats have written to US prudential regulators voicing their support for a rule change.

This isn't a new concern. Even back in 2015, a bipartisan letter on inter-affiliate IM requirements was sent by the House Committee on Agriculture raising concerns that "additional costs could be passed on to a bank's uncleared swap customers, often end users, without making these trades safer".

These are important points. Requiring IM for inter-affiliate transactions diverts resources from being used elsewhere, and also puts firms subject to US rules at a competitive disadvantage.

Margin requirements are an important part of the regulatory reforms that have made the derivatives market safer and more resilient. There's no appetite to reverse the important changes that have taken place, like clearing, reporting, margin and capital requirements. But there is an opportunity to improve the rules and make them consistent across jurisdictions. This will make the framework more effective and more efficient. IQ

Scott O'Malia

A full version of this opinion article is available at https://bit.ly/2y9t0wM

THE COVER PACKAGE

The Road Ahead

Progress has been made on benchmark reform, and the focus is now on building liquidity and trading activity in the new risk-free rates

Preparing for something that is expected to happen on an unknown date in roughly two-and-a-half years' time is neither simple nor easy. That is why the anticipated retirement of LIBOR at some point after the end of 2021 has long been a big marker on the horizon of the derivatives market.

With more than $370 trillion in exposure to interbank offered rates (IBORs) across products, there is no margin for error in the shift to alternative risk-free rates (RFRs). Market participants need to be aware of their IBOR exposures, adopt RFRs where they can, and implement robust fallbacks to prevent any disruption for contracts that continue to reference IBORs after 2021.

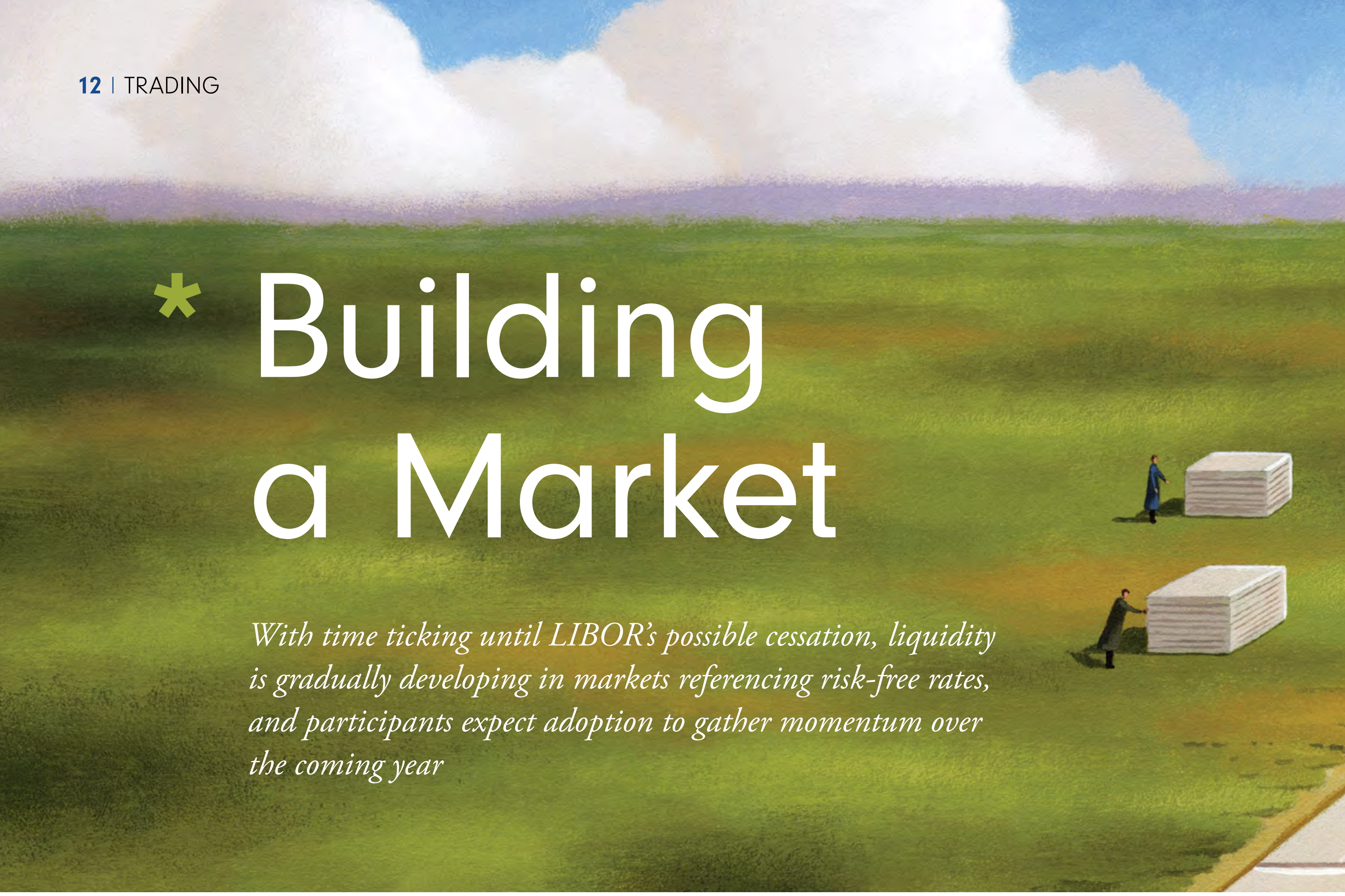
Encouragingly, there have been signs of progress over the past year. Many financial institutions now have dedicated teams and projects in place to support RFR adoption, and trading and clearing volumes in products linked to the RFRs are beginning to rise. Market participants believe there will be an acceleration in the pace of transition over the coming year, but they also recognise there is still a long way to go (see pages 12-17).

In a speech on July 15, UK Financial Conduct Authority chief executive Andrew Bailey struck an optimistic tone on recent progress, but reiterated the message that the days of LIBOR are numbered and timely transition is the only prudent option. Meanwhile, in the US, the Alternative Reference Rates Committee is continuing to follow the paced transition plan it adopted in October 2017 to support the growth of the Secured Overnight Financing Rate (see pages 22-25).

As transition efforts gain momentum in all of the key jurisdictions, ISDA's work to develop robust contractual fallbacks remains important. While the ideal scenario would be for all contracts to reference RFRs by the start of 2022, the market has to have a contingency for those contracts that haven't moved to the alternative rates should an IBOR permanently cease to exist. The new fallbacks will soon be ready to use, providing market participants with much-needed certainty at this time of change (see pages 18-20). IQ

"Risk managers across the industry are now very much aware that using LIBOR is not a sustainable path forward. Hope is not a strategy"

Tom Wipf, vice chairman of institutional securities, Morgan Stanley



Building a Market

With time ticking until LIBOR's possible cessation, liquidity is gradually developing in markets referencing risk-free rates, and participants expect adoption to gather momentum over the coming year

In any project, no matter how large or small, there comes a point at which things must switch from the theoretical to the practical; when a leap of faith must be taken and best-laid plans put into action. Whether that means laying the first bricks for a new building, bringing a brand new jet onto the runway or trialling an innovative medical procedure, the first step can be a daunting but nonetheless critical stage in any project.

Benchmark reform has now reached this critical marker. After extensive dialogue, consultation and technical preparation in recent years, market participants are now at the point where they can trade the risk-free rates (RFRs) that have been identified as alternatives to LIBOR and the other interbank offered rates (IBORs).

Many of the markets referencing the RFRs are still fairly new, which has made some firms reticent to take the plunge. The UK rate – the Sterling Overnight Index Average (SONIA) – has existed for many years, but the Secured Overnight Financing Rate (SOFR) in the US only began publication in April 2018. Infrastructure providers have launched products to kick-start the SOFR market since then, but the depth of liquidity in transactions referencing SOFR will ultimately depend on market participation.

This seems likely to receive a boost in the coming year. Many of the larger firms active in the derivatives market are actively working to transition their businesses to the new reference rates and reduce their reliance on the IBORs. At the same time, the finalisation of fallback provisions is expected to act as a catalyst to accelerate adoption of the RFRs. The switch by central counterparties (CCPs) to embed SOFR at the heart of their US dollar operations is also expected to bolster liquidity in SOFR transactions.

"The readiness to trade the new rates has increased dramatically over the past year and client demand is increasing too. The UK and the US are going at different speeds because SONIA has existed in the UK for 20 years and clients are used to trading it, whereas SOFR is still a very new index. But we are seeing significant liquidity building in the interdealer three-year to five-year SOFR market," says Richard Chambers, global head of short macro trading at Goldman Sachs.

It is still early days, of course, and there is a long way to go before liquidity in markets referencing SONIA, SOFR and the other RFRs is as deep as those referencing the IBORs. Ultimately, however, the balance must tip in favour of the RFRs, and it is up to market participants to maintain momentum.

"We're at the point now where collective action is needed," says Eric Litvack, chairman of ISDA. "We need to see widespread issuance and new contracts based on the alternative RFRs rather than continuing to replenish the supply of IBOR-based products. We all have a responsibility to put our collective shoulder to this wheel. The only way for liquidity to develop is for people to trade the new rates."

Growing pressure

The clock is ticking. The UK Financial Conduct Authority (FCA) has said it will no longer compel or persuade banks to submit to LIBOR after the end of 2021, leaving less than two-and-a-half years for the entire market to transition to the new benchmarks. In a speech in July

Illustration: James Fryer

2018, FCA chief executive Andrew Bailey warned that the pace of transition had not been fast enough, and the stack of contracts referencing LIBOR but maturing beyond the end of 2021 was continuing to grow.

Fast-forward to today, and while progress has been made, some regulators remain concerned that the pace of transition should be faster. In a speech to the US Alternative Reference Rates Committee (ARRC) on June 3, Randal Quarles, vice chair for supervision at the Federal Reserve, explained that the ARRC had been convened to develop the tools needed to transition away from LIBOR. Now that those tools have been delivered, it is up to the market to use them, he said.

"With only two-and-a-half years of further guaranteed stability for LIBOR, the transition should begin happening in earnest. I believe that the ARRC has chosen the most viable path forward and that most will benefit from →

"We need to see widespread issuance and new contracts based on the alternative RFRs rather than continuing to replenish the supply of IBOR-based products. We all have a responsibility to put our collective shoulder to this wheel. The only way for liquidity to develop is for people to trade the new rates"

Eric Litvack, ISDA

"Given our fiduciary responsibility to investors, we need a clear reason to transact in a new market, whether as a hedging or investment opportunity, and there would be a cost if we were to start migrating in advance of a market developing"

Courtney Garcia, Pimco

following it, but regardless of how you choose to transition, beginning that transition now would be consistent with prudent risk management and the duty that you owe to your shareholders and clients," said Quarles.

Early progress

Given the scale of the challenge, it is not surprising that regulators are pressing for an acceleration in the pace of benchmark transition. As Quarles stressed in his speech, there is still a tendency to stick with LIBOR because of its liquidity and familiarity, but to do so would be to deny the reality of the benchmark's proven fallibility, and the fact that its future is uncertain at best.

Nonetheless, a review of recent progress gives grounds for optimism. Awareness of the issue is much greater than it was a year ago. Many larger firms have also established dedicated functions to manage the transition away from LIBOR and to coordinate efforts across their institution.

"Industry efforts on benchmark reform have really gathered pace over the past year, and we are much further advanced. Like most other global banks, we now have a dedicated function working full-time to coordinate our efforts in this area, and we are engaged in some way in every jurisdiction," says Jason Granet, head of LIBOR transition at Goldman Sachs.

Internal preparations vary for every institution with exposure to the IBORs, but they will typically include working with clients, trading desks and legal departments to determine what needs to be done to reference new and existing contracts to the RFRs. Market participants are also dependent on the development of trading and clearing services for products linked to the RFRs, and there has been significant progress on this front.

During the course of the past year, trading and clearing of SOFR futures and swaps have become available through multiple entities including LCH, CME and ICE, running alongside similar services for SONIA products. LCH launched clearing for SOFR swaps in July 2018, and has seen a surge of activity in both SOFR and SONIA products since then.

"SONIA is definitely on an upward trajectory from an already strong base, and we now see some of the early adopters doing the bulk of their business across the curve in SONIA rather than sterling LIBOR. As a new rate, SOFR starts from a much lower base but we have seen strong growth this year, both in outright SOFR and in the basis products," says Philip Whitehurst, head of service development for rates at LCH.

Meanwhile, CME launched SOFR futures in May 2018, and added SOFR swaps in October 2018 with price alignment interest (PAI) and discounting linked to SOFR. Over the past year, CME has attracted more than 160 entities to its SOFR products, and Agha Mirza, global head of interest rate products at CME, sees positive momentum building.

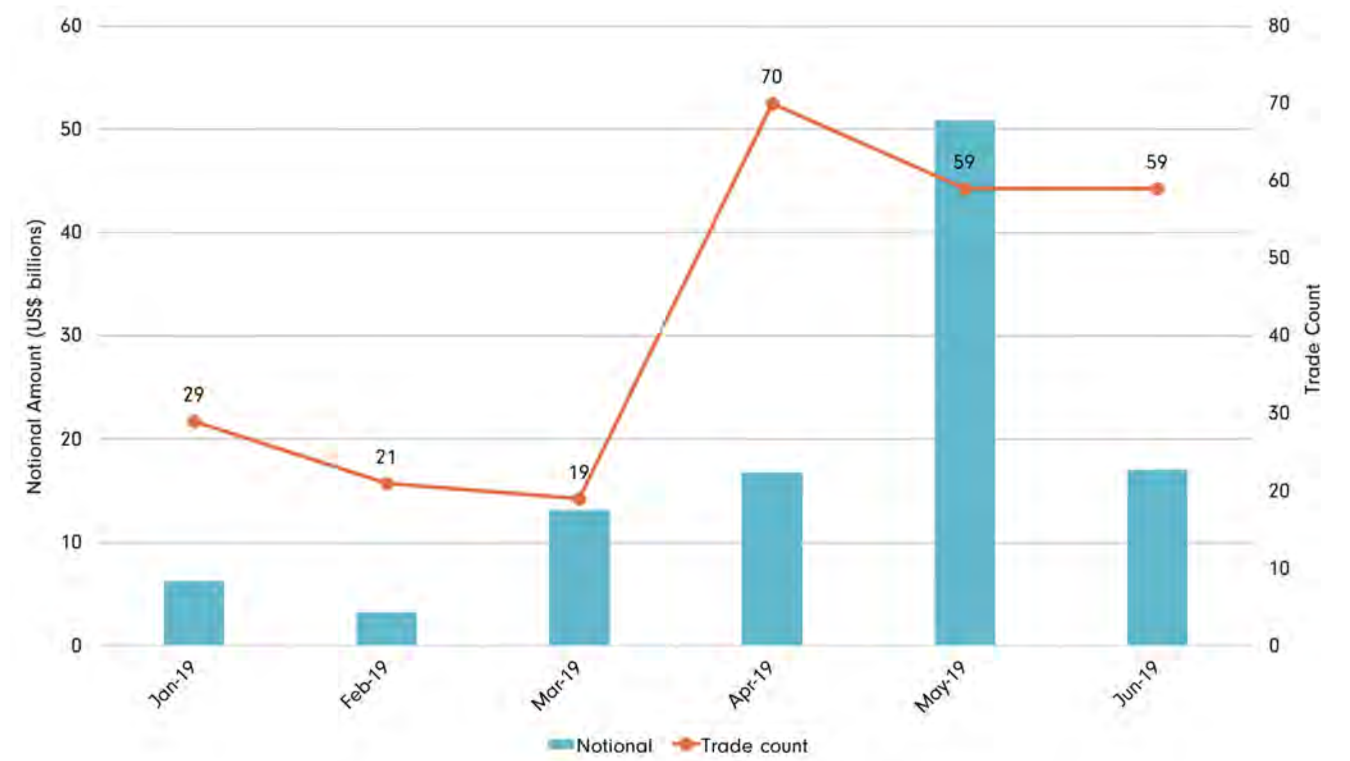
"Clearly, there are many theoretical and practical dimensions to transition, but the demand for SOFR futures has so far exceeded expectations. For swaps, it will naturally take a little longer, but we have seen a recent increase in clients and dealers clearing SOFR swap trades," says Mirza.

Long road ahead

While trading of the RFRs has certainly advanced over the past year, there is still a long way to go if the industry is to eliminate its reliance on LIBOR by the end of 2021. In the US in particular, there is some concern that trading activity in SOFR so far has been predominantly short-dated.

"There is certainly increasing attention and focus on benchmark reform across the industry, but that doesn't always translate to individual securities or markets. Notional traded in SOFR has increased but still tends to be very short-dated, and it seems likely this is mainly speculative trades rather than investors actually hedging risk," says Subadra

SOFR OTC SWAPS TRADED NOTIONAL AND TRADE COUNT



Source: Depository Trust & Clearing Corporation

Rajappa, head of US rates strategy at Société Générale.

Recognition of the need to transition to SOFR, SONIA and the other RFRs is fairly widespread but, for many firms, it still comes down to a reticence to take the plunge into a new market in which liquidity cannot yet be guaranteed. The call from regulators to accelerate transition has been unmistakable, but market participants also have a duty to their investors to transact in liquid markets. For many investors, RFR markets might still be considered too fragile.

"Given our fiduciary responsibility to investors, we need a clear reason to transact in a new market, whether as a hedging or investment opportunity, and there would be a cost if we were to start migrating in advance of a market developing. There have been some green shoots and increased issuance this year, but liquidity is still a long way from where it needs to be," says Courtney Garcia, executive vice president and portfolio risk manager at Pimco.

This is something of a chicken-and-egg scenario for market participants that need to transition – a relative lack of liquidity in the RFR markets is holding many firms back, but liquidity won't improve until the rates are more widely traded. For both banks and asset managers, this reality is compounded by relatively low client demand to trade the RFRs at this point.

"We are ready to accommodate clients' needs in SOFR-based swaps but have not yet seen much demand, largely because the volume and liquidity are still small. This is not so much a transition as an entire rethink of the derivatives market because it means moving from a forward-looking rate to an overnight rate. It involves redeveloping multiple segments of the market that have evolved with a certain definition of LIBOR and will now need to reference SOFR," says Rajappa.

Eyeing catalysts

While there is no silver bullet that will force a sudden transition to the alternative RFRs, market participants expect two particular milestones to act as catalysts over the coming year.

First, ISDA and the industry have been working intensively to develop more robust fallback language that would provide contingency arrangements in the event an IBOR is permanently discontinued. In such a scenario, the fallbacks that ISDA is implementing in its standard definitions would enable derivatives contracts referenced to IBORs to switch to the new RFRs. Given the inherent differences between the IBORs and RFRs, a set of technical adjustments is being developed to allow that change to take place as smoothly as possible if the fallbacks are triggered (see pages 18-20).

→

The development of fallbacks is a separate initiative to RFR adoption, and implementing fallback language should not be seen as a substitute for actually trading the RFRs. However, finalisation of the fallbacks should crystallise the reality that derivatives contracts referencing LIBOR and the other IBORs could at some point reference the RFRs, thereby accelerating adoption.

"The fallbacks set the formula for how the conversion would take place in the worst-case scenario in which you have continued to use LIBOR and it is discontinued. Knowing and implementing that formula will then give firms the opportunity to work with their trading desks to migrate new trading activity to the alternative rates. Once the fallbacks are in place, the range of outcomes narrows and transition becomes a more desirable option," says Granet at Goldman Sachs.

The implementation of fallbacks will bring the RFRs further into the spotlight, giving firms contingent exposure to SOFR, SONIA and the other rates. This creates an additional incentive to migrate new trades to these rates rather than continuing to use the IBORs. If LIBOR was permanently discontinued today, for example, there would be no automatic exposure to a new rate. With the implementation of fallbacks, contracts would definitely switch to RFRs in a permanent cessation scenario.

"Once fallbacks are in place, there is a high probability that contracts referenced to US dollar LIBOR will one day reference SOFR, so participants may want to manage that contingent exposure by adopting SOFR as broadly as possible. There will also be greater certainty over where the market is moving and how the adjustment will be calculated, which should be helpful information to market participants," says Ann Battle, assistant general counsel at ISDA.

The second catalyst that is expected to accelerate the adoption of RFRs is the move by CCPs to switch the rate used for US dollar PAI and collateral discounting from the effective federal funds rate to SOFR. Currently anticipated to take place during the second half of 2020, this will be a major change that will embed SOFR in the US swaps market and, in one sweep, create much more widespread reliance on SOFR.

LCH has yet to confirm exactly when the switch will happen and how it will be managed, but it expects to have further details soon. CME is also actively seeking feedback from its members on how and when to make the change. In the meantime, participants on both the buy and sell side believe the PAI and discounting adjustment could be the critical step that is required to jumpstart liquidity in the fledgling SOFR market.

"The big bang switch to SOFR discounting will be a very important step in generating a very robust curve with improved price discovery that markets can rally behind, allowing investors to go further out the curve and trade long-dated SOFR swaps as they have been doing with SONIA," says Rajappa.

Pimco's Garcia agrees. "The switch could have a big impact for those that hedge the discounting basis risk, and it should drive liquidity across the curve. For investors, there will be a small impact on valuation that will need to be reimbursed, so there needs to be a discussion about how this will be handled operationally," says Garcia.

Following consultation with the market, LCH has been developing its thinking on the move to SOFR discounting and how best to account for the valuation impact. "It became clear that our users wanted the transition to SOFR PAI and discounting to take place in a single step on an agreed date during the second half of 2020, and also that there should be a compensation mechanism to neutralise the impact of the switch. We have been developing our thinking on both points and expect to come back to the market soon," explains Whitehurst.

That compensation mechanism could take the form of a simple cash payment, it might involve issuing basis swaps, or a scenario could develop in which counterparties are given a choice between the two options. Using basis swaps would create an additional source of SOFR liquidity, but it will be up to LCH and other clearing houses to determine the most appropriate way forward.

"Many acknowledge that using basis swaps to

"The big bang switch to SOFR discounting will be a very important step in generating a very robust curve with improved price discovery that markets can rally behind"

Subadra Rajappa, Société Générale

> "Once the fallbacks are in place, the range of outcomes narrows and transition becomes a more desirable option"
>
> **Jason Granet, Goldman Sachs**

compensate firms would help to create liquidity, as the basis swaps would become another exposure to SOFR that market participants need to manage. Whatever mechanism is chosen, the switch is going to have a positive impact in further building the market in SOFR," says ISDA's Battle.

Last orders

Regulators around the world have worked hard in recent years to encourage the industry to move faster on benchmark reform. From speeches by Andrew Bailey and other senior supervisors to a letter written by UK regulators to the chief executives of major banks and insurers in September 2018, the official sector is focused on transition to the RFRs.

In a speech on June 5, Dave Ramsden, deputy governor for markets and banking at the Bank of England, called for "last orders" on LIBOR, stressing that the continued reliance on an unsustainable piece of infrastructure creates a "fragility at the heart of markets". Firms now need to focus on what they need to do in order to transact SONIA-based products and stop adding to their post-2021 LIBOR exposures, he said. While his comments focused on SONIA, the same thinking can be applied to SOFR and other RFRs.

However hard regulators may push on this issue, it is still up to individual firms to take the plunge. At some point in the future, liquidity in the RFRs will likely outshine that of the IBORs and it will no longer be practical to continue writing contracts that reference the old benchmarks. Exactly when that point comes will be up to the industry, although the completion of fallback language and the switch to SOFR for PAI and discounting are expected to help.

In the more immediate future, further outreach may be needed to ensure all market participants are fully aware of the urgent need to transition. While some may still be waiting for deeper liquidity in the alternative RFRs, delaying transition should not be considered a viable option.

"If market participants can commit to stop refilling the market with new contracts linked to the old benchmarks, then that in turn will drive natural demand for the new RFRs and create increased notoriety around the new products. As more firms buy into this, it should create positive network effects and build critical mass," says Litvack. IQ

THE WAIT FOR FORWARD-LOOKING TERM RATES

Transitioning from interbank offered rates to overnight rates will be a major endeavour for all market participants, but for certain practitioners and products, it represents a somewhat more significant jump into the unknown.

For derivatives traders, the existence of an overnight indexed swap market means there is already a tested infrastructure available for trading based on overnight rates, whereas systems in the loan and other cash markets are not necessarily built to support the use of an overnight rate. The development of forward-looking term rates may ease the transition effort in the cash markets, but it is not clear when they will become available.

In a white paper on the Secured Overnight Financing Rate (SOFR) published in April 2019, the US Alternative Reference Rates Committee (ARRC) made clear that while there may be productive uses for a forward-looking SOFR term rate, those able to use overnight SOFR should not wait for those term rates to develop.

Derivatives market participants agree, cautioning that term rates should not be considered a reason to delay adoption of SOFR and other risk-free rates. And the development of forward-looking term rates will not come to fruition until there is a sufficient level of derivatives trading in the RFRs, adding to the case for early adoption of these rates.

"There is still some wishful thinking in parts of the market that LIBOR will continue to exist in some form after 2021, or that investors can wait until term rates develop for the new benchmarks. The ARRC has made it very clear that the development of term rates cannot be guaranteed in the time available," says Subadra Rajappa, head of US rates strategy at Société Générale.

* Last Push for Fallbacks

Three years after the Financial Stability Board called for the strengthening of fallback provisions for derivatives referenced to key IBORs, ISDA is on track to amend its 2006 definitions and publish a protocol for legacy contracts by year-end

Despite the best intentions of many airlines, there is a tendency among passengers to tune out during the safety demonstration that takes place shortly before take-off. Many prefer to sit back and relax rather than worrying about seatbelts, oxygen masks and evacuation slides. That doesn't mean airlines can neglect these details, of course. The vast majority of flights might land without incident, but every aircraft and crew member must be fully prepared for an emergency.

END OF 2019:
The ISDA definitions will be amended and a protocol will become available

The rationale for strengthening contractual fallbacks while transition from interbank offered rates (IBORs) to risk-free rates (RFRs) continues is much the same. Regulators and market participants hope the transition will be smooth without any sudden or unplanned interruption to the publication of existing rates. But with more than $370 trillion in notional exposure to the IBORs across financial markets, contingency arrangements must be in place so the market can manage a permanent rate cessation for contracts that may continue to reference IBORs.

Much like broader benchmark transition efforts, the work to strengthen fallbacks is now beginning to change gear, switching from the theoretical to the practical as the clock ticks ever closer towards the end of 2021 and the possible cessation of LIBOR in its five currencies. Once the fine details of fallback arrangements are agreed and contractual language is finalised, it will be up to market participants to make sure they are ready to adopt the new fallbacks as soon as they become available.

"The work on fallbacks is absolutely crucial because existing arrangements are largely not fit for purpose. In most financial instruments referencing LIBOR, fallbacks are designed to deal with an interruption to the publication of a benchmark rather than full cessation, so they often involve taking a dealer poll or using the previous day's rate. This might work for a one-day interruption, but more robust, consistent fallbacks would be needed in the event of a permanent cessation," says Eric Litvack, chairman of ISDA.

Developing adjustments

Back in 2016, the Financial Stability Board's Official Sector Steering Group asked ISDA to review and strengthen fallback provisions for derivatives referenced to key IBORs. Following working group discussion, contracts referencing IBORs will fall back to the relevant RFRs in the event of a benchmark discontinuation. A US dollar LIBOR contract would therefore become a SOFR contract, while a sterling LIBOR contract would become a SONIA contract.

The complexity lies not in the fallback rate itself, however, but in the intrinsic differences between IBORs and RFRs. While IBORs are available in multiple tenors, the RFRs are overnight rates, and where IBORs incorporate a bank credit risk premium and a variety of other factors, RFRs do not. A fallback therefore needs to account for these differences to ensure contracts continue to function as closely as possible to the original intentions of the counterparties after the discontinuation of a reference rate.

In the event a fallback kicks in, a set of adjustments would be used to account for the inherent differences between the reference rates. Last year, ISDA undertook a major industry consultation to address this scenario for six critical benchmarks – sterling LIBOR, Swiss franc LIBOR, yen LIBOR, TIBOR, euroyen TIBOR and the Australian Bank Bill Swap Rate.

The consultation was conclusive in that the overwhelming majority of respondents identified the compounded setting-in-arrears rate as the best way to address the difference in tenor, while a significant majority across different types of market participant preferred the historical mean/median approach to address the difference in risk premia.

Respondents also suggested they would like to see the same consistent approach applied to fallbacks for other IBORs not covered in the consultation. An additional consultation this year sought industry feedback on spread and term adjustments for fallbacks for derivatives referencing US dollar LIBOR, as well as Canada's CDOR and Hong Kong's HIBOR. As US dollar LIBOR is used as an input for Singapore's SOR, the consultation also addressed the use of an adjusted SOFR as an input to a fallback for SOR if US dollar LIBOR ceases.

The supplemental consultation closed on July 12, and the derivatives industry is now a step closer to finalising the new fallbacks.

"The ISDA consultation last year shows that the majority of market respondents have agreed an approach to fallbacks, so now it is the technical detail that needs to be hammered out. As that work continues, we as market participants need to examine our portfolios and decide which legacy contracts are suitable to have the new fallback language incorporated. We need to have done this by the time the protocol becomes available," says Mun Bin Chan, head of legal for FX, rates and credit at Standard Chartered Bank.

"The fallback will be best suited to the more vanilla trades with a single reset date that reference the 2006 ISDA definitions. For the more exotic trades, such as forward rate agreements and range accruals, the standard fallback may be less appropriate," he adds.

Next consultation

While the previous consultations have sought preliminary feedback on the key features of the adjustments, such as the length of the lookback period for the historical mean/median approach, these details now need to be finalised. A targeted consultation is therefore scheduled to take place during August to gather industry input on these points.

"We will take all of the preliminary feedback we have already received and then seek market-wide consensus on the parameters for the adjustments and the issues that remain open. The issues that will be on the table in this final consultation have been well-known for more than a year, so we are just asking market participants to fine tune their views and submit their positions," says Ann Battle, assistant general counsel at ISDA.

The coming months will also see an independent service provider beginning to calculate and publish the adjustments relating to the fallbacks. Following a request for proposal issued by ISDA in February, Bloomberg was selected and is now preparing the systems and processes that will be required for this important component of the fallbacks infrastructure. It is anticipated that Bloomberg will publish the adjusted fallback rates prior to fallbacks taking effect, which will help market participants prepare for the new framework.

"Until the fallbacks actually take effect, the adjustments that are published will only be indicative, but market participants will be able to familiarise themselves with the vendor screen and obtain an indicative value for what the fallback would be if it were to take effect. This should help their preparations," says Battle.

Once the parameters for the fallbacks have been finalised, the 2006 ISDA definitions will be amended so all new contracts referencing the IBORs include the new fallback language. A protocol will also be published so legacy IBOR trades can be modified to incorporate the fallbacks. It is anticipated that the definitions will be amended and the protocol will become available from the end of 2019, with implementation in early 2020.

Internal preparation

Market participants now need to make sure their own systems are compatible with the new fallback arrangements. The scale of this work will vary for individual firms, but all possible implications should be considered.

"Firms should ask themselves whether their systems can run contracts under which the new fallbacks have been invoked. Moving to an overnight rate compounded in arrears means that they will only know the rate towards the end of the calculation period. Hopefully, they will be updating systems to deal with this as part of their general transition preparation. More generally, they must ask whether the application of fallbacks, specifically the timing and nature of the fallbacks, affects their hedge accounting →

"The work on fallbacks is absolutely crucial because existing arrangements are largely not fit for purpose. In most financial instruments referencing LIBOR, fallbacks are designed to deal with an interruption to the publication of a benchmark rather than full cessation"

Eric Litvack, ISDA

"Firms should ask themselves whether their systems can run contracts under which the new fallbacks have been invoked"

Deepak Sitlani, Linklaters

→ treatment or creates any unexpected tax charge," says Deepak Sitlani, partner at Linklaters.

Ultimately, the derivatives industry is advancing towards a period when, just as airlines have a non-negotiable duty to maintain the best possible safety record, market participants have a duty to protect themselves and their counterparties from the sudden and permanent cessation of a benchmark. The good news is that the carefully developed tools required to gain this protection will soon become available on a market-wide basis. Now it is up to firms to make sure they are ready to adopt them.

Most dealers recognise the importance of the fallbacks, but they will need to work with their clients and counterparties to make sure no contract referenced to an IBOR is still saddled with outdated fallback language.

"From a legal perspective, incorporating the new fallbacks will be a very important backstop for contracts that continue to reference LIBOR. Once the protocol becomes available for adherence, we expect there will be a lot of momentum to adopt it in order to protect contracts referenced to LIBOR," says Gigi Chavez de Arnavat, associate general counsel at Goldman Sachs. IQ

ISDA CONSULTS ON PRE-CESSATION ISSUES

While most of the key stages involved in the development of more robust fallbacks could have been anticipated from the outset, an additional workstream in 2019 has focused on pre-cessation issues for LIBOR and other key interbank offered rates (IBORs).

In a speech at ISDA's Annual Legal Forum in January 2019, Edwin Schooling Latter, director of markets and wholesale policy at the UK Financial Conduct Authority (FCA), addressed the important question of how fallback triggers should be designed. While a fallback might reasonably take effect only when an IBOR ceases publication, he suggested an assessment by a regulator that a rate is no longer representative of the underlying market might also constitute a viable trigger.

For example, if the FCA as the designated supervisor deemed that LIBOR is no longer representative due to the shrinking of the submission panel, participants would then need to consider the potential negative ramifications of continuing to use that rate, said Schooling Latter.

"The FCA is required to make this assessment of representativeness each time a supervised contributor – ie, a panel bank – announces that it intends to stop submitting data," he said. "So, it is entirely plausible that the end-game for LIBOR will include an assessment by the FCA that one or more panels have shrunk so significantly in terms of number of banks or the market share of the banks remaining, that it no longer considers the relevant rate capable of being representative."

This issue was subsequently taken up by the Financial Stability Board's Official Sector Steering Group (FSB OSSG), which wrote to ISDA on March 12 to ask that it seek market opinion on the events that would trigger a move to the spread-adjusted fallback rate.

On May 16, ISDA published a consultation on pre-cessation issues for LIBOR and other IBORs in parallel with its supplemental consultation on spread and term adjustments for fallbacks in derivatives referencing US dollar LIBOR, CDOR and HIBOR. While the FCA and FSB OSSG's policy objectives make sense to most participants, there has been some concern over the practicalities of incorporating a pre-cessation trigger into the fallbacks.

"It has become clear that there are pros and cons of using a pre-cessation trigger, and market participants must consider the consequences that would flow from a statement that LIBOR is no longer representative. I would expect they would, in principle, not want contracts to refer to a rate that is unrepresentative. It's easy to imagine a drive to have new contracts refer to the risk-free rate, but what about legacy contracts? If LIBOR continues to be published while contracts have fallen back to the risk-free rate plus spread, it will be very clear whether the contract holder is better or worse off with the fallback," says Deepak Sitlani, partner at Linklaters.

Comments on the consultation were due by July 12 – the same day as the consultation on spread and term adjustments closed – and the responses were being evaluated as **IQ** went to press.

* Mission Critical Year

*It is nearly two years since the US Alternative Reference Rates Committee published a detailed transition plan for the adoption of SOFR. How far has the industry come, and what remains to be done? IQ talks to **Tom Wipf**, ISDA board member, vice chairman of institutional securities at Morgan Stanley and chair of the ARRC*

IQ: You took on the role of the Alternative Reference Rates Committee (ARRC) chair in April 2019. What are your priorities?

Tom Wipf (TW): The ARRC has identified priorities in five key buckets for the remainder of the year. First, build market liquidity and drive demand for SOFR. Second, create and encourage the adoption and implementation of robust fallbacks. Third, launch a working group focused on consumer products. Fourth, focus on education and outreach to obtain public feedback and ensure market readiness. Fifth, coordinate across national working groups.

Market participants must accept the baseline assumption that LIBOR, based on its design and history, is no longer fit for purpose. The ARRC is helping to coordinate the market-wide initiative, but implementation must ultimately be conducted on a firm-by-firm basis.

One development I'm particularly pleased with is the ARRC's consideration of a SOFR-based adjustable-rate mortgage product. That could have a significant impact on SOFR's adoption in the consumer market. Consumer products are a key component of the transition, and we've been clear the ARRC's consumer workstream will carefully take the unique characteristics of these products and their users into account.

As a problem-solving organisation, the ARRC is working diligently across all of our workstreams. With 12 working groups, 100 firms and 800 individuals working collectively on solutions, we can significantly smooth the path to implementation.

> "LIBOR has been so ingrained in our financial system that creating awareness and addressing the inertia of the status quo have been two of the biggest challenges to date. This is an unprecedented risk management challenge, and 2019 is a mission-critical year"

at least improve the fallback language if participants wish to continue referencing LIBOR. The ARRC has published improved fallback language for various cash products to help issuers in this regard.

For those transactions maturing after 2021, the ARRC is exploring legal analysis on the potential for legislative solutions under New York law, which is the applicable law for many financial instruments. This analysis is ongoing and not yet ready for primetime. For cash products going forward, market participants are actively figuring out how to best use SOFR, and we have seen a number of innovative conventions used in the floating rate note (FRN) market. The ARRC encourages this innovation, and wants firms to utilise the versions of SOFR that work best for them today.

Many risk management tools are in place now, or will be in place shortly, to provide significantly better outcomes post-cessation. Fallbacks and protocols are critical pieces of the puzzle, but the best way out of a hole is to stop digging. Meaningful risk-reduction opportunities exist simply as a result of maturity roll down, which can be used as an opportunity to convert large portions of firms' books via new activity referencing SOFR.

IQ: The ARRC adopted a paced transition plan in October 2017 to encourage adoption of SOFR. Is the plan on schedule? What have been the most challenging elements so far?

TW: The paced transition plan adopted by the ARRC in 2017 was aggressive, but thanks to the hard work of ARRC member firms and market participants more broadly, we're tracking ahead of schedule (see Table A).

We planned to have cleared overnight indexed swap (OIS) trading in the current price alignment interest (PAI) environment (the effective federal funds rate) by the first quarter of 2019. LCH began clearing these swaps in July 2018. We planned to have cleared OIS in a SOFR PAI environment by the first quarter of 2020. CME began offering this in October 2018. We planned to have central counterparties (CCPs) adjust their discounting/PAI regimes for all cleared swaps by the second quarter of 2021. Based on commentary from CCPs, this may occur in the second half of 2020. Across the board, we are well ahead of schedule, which is highly encouraging.

The most challenging element so far has been thinking about how to utilise SOFR for both legacy and new-issue cash products. Our publication of *A User's Guide to SOFR* in April provides an extremely helpful description of how market participants can begin using SOFR in its current form.

For legacy products, certain cash instruments are operationally challenging to amend post-issue, so market participants must inspect those documents and figure out how best to proceed for their respective organisations. For those trades maturing before 2021, there is an opportunity to enter new contracts referencing the alternative rates, or

IQ: SOFR is still a relatively new rate, having only been published since April 2018. Is the adoption of the rate where you had expected it to be at this point?

TW: It's been encouraging, but there's still a ways to go – we're in the early innings of SOFR adoption. We are very encouraged by the growth in the market for SOFR futures and, with these products and other derivatives, we have all the tools needed to create real liquidity. From now, progress will be measured by the number of firms transferring their books over to SOFR. We expect certain key market events to encourage this, like ISDA's implementation of fallbacks for derivatives in its interest rate definitions, as well as CCP discounting adjustments. In the cash market, we've seen approximately $100 billion issued to date. That's a promising start that we intend to build upon.

MORE READING

A User's Guide to SOFR was published by the ARRC in April 2019. Read it here: https://nyfed.org/2USOC9v

IQ: What needs to happen to encourage more trading volume in SOFR-based derivatives?

TW: Increased liquidity will be driven by hedging and other end-user demand. The more we see cash issuance, the more we would expect SOFR-based derivatives usage to increase. There are also two key events we see driving liquidity in the next year or so: the implementation of fallbacks for derivatives in ISDA's standard interest rate definitions and the change in CCP discounting.

The first will give market participants a line of sight into their post-2021 outcomes, which should prompt voluntary conversions. To the extent that CCPs adjust their discounting

→

"Two and a half years will go by very quickly, and risk reduction now will create meaningful benefits in 2021"

→ environments via a 'big bang' next year, this would introduce a significant amount of hedging demand into the system, providing a boon to liquidity. Having said that, the tools and products needed to foster a liquid marketplace in SOFR already exist, and market participants should continue to familiarise themselves with them. Through our publications and our roundtable events, the ARRC can continue to be helpful in this broad market education initiative.

IQ: Is there sufficient understanding of the need to embark on plans for transitioning away from LIBOR at the earliest opportunity? What more should be done on outreach and education?

TW: For those who have been listening to regulators speak on this topic for the past several years, it feels like enough has been done to draw the attention of market participants. However, the truth is that we need to continue efforts to educate the broader market. We need to agree on the base-case assumption that LIBOR will cease to exist from year-end 2021, and then work backwards for how our respective organisations should prepare.

The ARRC has published a number of educational materials over the past several months to help with the learning curve, including the user's guide to SOFR that I mentioned earlier, which demystifies how market participants can begin using SOFR today. We recently held our fourth roundtable event, and the feedback was very positive. It is these sorts of outreach strategies that will help improve market understanding of the work at hand.

IQ: You have mentioned CCPs switching to SOFR PAI and discounting next year as an important development. How do firms need to prepare for the switch?

TW: Certain market participants that clear much of their swap activity will have a hedging-based need to use SOFR swaps in the new discounting regime. Firms need to monitor their cleared activity and think about how a discounting shift will impact their portfolio valuations on an ongoing basis. This is a key milestone in the transition.

IQ: You referred to the ARRC's work on fallback language for new cash products. How does this fit in with ISDA's work on fallbacks for derivatives?

TW: At this point, the ARRC has released fallback language for FRNs, syndicated loans, bilateral loans and securitisations. ISDA recently released further consultations to obtain market feedback on certain aspects of fallbacks for derivatives. There will be some differences between the two. For instance, the fallback for derivatives referenced to US dollar LIBOR will likely be compounded SOFR, whereas the first fallback in the ARRC's language will be

WHAT IS THE ARRC?

The Alternative Reference Rates Committee (ARRC) is a public/private-sector working group convened by the Federal Reserve Board and Federal Reserve Bank of New York. Its role is to help facilitate industry adoption of its recommended risk-free rate, SOFR, in place of US dollar LIBOR.

The ARRC was established in 2014 with initial objectives to identify risk-free rates that could be used as an alternative to US dollar LIBOR and to agree an implementation plan. The group subsequently recommended use of SOFR for certain new US dollar derivatives and other financial contracts, and published a paced transition plan in 2017.

The ARRC was reconstituted with a broader membership in 2018, and now serves as a forum to coordinate adoption of SOFR across US cash and derivatives markets. It includes a variety of working groups focused on accounting and tax, consumer products, outreach and communications and term rates, among other issues.

For more information, visit: https://www.newyorkfed.org/arrc

TABLE A: THE ARRC'S PACED TRANSITION PLAN

	Step	Anticipated Date of Completion	Actual Date
1	Infrastructure for futures and/or OIS trading in the new rate put in place by ARRC members	2018 H2	✓ ARRC members already trading futures and OIS
2	Trading begins in futures and/or bilateral non-cleared OIS that reference SOFR	By end 2018	✓ CME launched SOFR futures on May 7, 2018; ICE launched futures on October 22, 2018
3	Trading begins in cleared OIS that reference SOFR in the current (EFFR) PAI and discounting environment	2019 Q1	✓ LCH offered SOFR OIS and basis swap clearing on July 18, 2018; CME began clearing OTC SOFR swaps on October 1, 2018
4	CCPs begin allowing market participants a choice between clearing new or modified swap contracts (swaps paying floating legs benchmarked to EFFR, LIBOR and SOFR) into the current PAI/discounting environment or one that uses SOFR for PAI and discounting	2020 Q1	✓ CME began clearing swaps using SOFR PAI/discounting on October 1, 2018
5	CCPs no longer accept new swap contracts for clearing with EFFR as PAI and discounting except for the purpose of closing out or reducing outstanding risk in legacy contracts that use EFFR as PAI and the discount rate. Existing contracts using EFFR as PAI and the discount rate continue to exist in the same pool, but would roll off over time as they mature or are closed out	2021 Q2	LCH has announced that it expects to move to SOFR PAI/discounting on both new and legacy swaps during the second half of 2020
6	Creation of a term reference rate based on SOFR-derivatives markets once liquidity has developed sufficiently to produce a robust rate	By end 2021	

a forward-looking term SOFR, even though this rate does not currently exist. But an important similarity is that both deal with a permanent cessation of LIBOR in an orderly and methodical way, and they are light years better than the fallback language that exists in legacy documentation.

IQ: In what way could the implementation of fallback language for derivatives spur an acceleration in transition to SOFR?

TW: The release of ISDA's amended definitions and a protocol to include those amended definitions in legacy derivatives contracts will give market participants a view of their post-2021 outcomes, and market pricing could quickly converge to the levels implied by the fallbacks. These sorts of movements should prompt voluntary transitions of derivatives portfolios to SOFR.

IQ: What do you think will be the greatest challenge in adopting the new risk-free rates (RFRs) over the coming years?

TW: LIBOR has been so ingrained in our financial system that creating awareness and addressing the inertia of the status quo have been two of the biggest challenges to date. This is an unprecedented risk management challenge, and 2019 is a mission-critical year.

Fortunately, we've seen a demonstrable pick up in awareness and preparation over the past year. We have clearly moved from the hypothetical to the practical. Risk managers across the industry are now very much aware that using LIBOR is not a sustainable path forward. Hope is not a strategy.

We may also have to accept that not all products will continue to exist in their current construct post-cessation. Although this may present challenges for risk managers, it is certainly not a gating factor for progressing through the transition. The fact remains that, although structurally different, SOFR is a more robust benchmark rate on which to base financial contracts.

Two and a half years will go by very quickly, and risk reduction now will create meaningful benefits in 2021.

IQ: How are you coordinating with other RFR working groups globally?

TW: There has been strong coordination and cross-pollination in the RFR working groups globally. The leaders of the key working groups touch base regularly to share ideas and best practices in order to keep us globally aligned to the greatest extent possible given the idiosyncrasies of our various markets. However, with that backdrop, we should anticipate the potential for differing outcomes by jurisdiction, which only magnifies the need for greater preparation now. IQ

A Global View

*The CFTC's Global Markets Advisory Committee has targeted a number of high-profile issues for consideration, including the phase-five implementation of initial margin requirements and cross-border harmonisation. CFTC commissioner **Dawn Stump**, sponsor of the GMAC, discusses the priorities of the committee*

IQ: What do you see as the main role of the Commodity Futures Trading Commission's (CFTC) Global Markets Advisory Committee (GMAC), and, as sponsor of that committee, what do you see as the priorities?

Dawn Stump (DS): The CFTC's GMAC was created over 20 years ago, and reflects the long-standing need for global coordination that has benefitted derivatives regulation for decades. The CFTC has a long history of working with our counterparts around the world to ensure futures and options market regulations are properly applied. Such a model of cooperation is essential to achieving our more recent task of effectuating new regulations for globally traded over-the-counter (OTC) swaps.

In fact, the Dodd-Frank Act requires the CFTC to consult and coordinate with foreign regulators on the establishment of consistent international standards with respect to swaps, which is aligned with the agency's historical practice. The GMAC's well-established role of advising the commission on issues that affect the integrity and competitiveness of US markets and US firms engaged in global business has never been more important to the CFTC's mission.

While the work ahead is vast, I am grateful to have many active GMAC members from diverse backgrounds, and a wonderful chairperson in Angie Karna, a managing director at Nomura Securities International. The membership will provide input on key issues, including: preparations for the phase-five implementation of initial margin (IM) requirements for non-centrally cleared derivatives; enabling global central counterparties (CCPs) and their members to advance OTC swaps clearing without creating a complicated web of regulatory obligations that run counter to the reform agenda; lessons learned from the European Union's revised Markets in Financial Instruments Directive's position limit regime and how that may inform the CFTC's efforts to design a new position limit proposal; harmonising global data policies; and developing a workable regulatory structure beyond the currently applied cross-border guidance.

IQ: At your first GMAC meeting, you focused on assessing the status of the key pillars of the Group-of-20 (G-20) derivatives reforms. How important is such a review and what is the objective?

DS: The global nature of the OTC swaps market was recognised in the midst of the financial crisis, as the G-20 nations determined at the Pittsburgh summit in 2009 that a global set of common principles should be applied. Previous commissions were tasked with setting up this new market structure in the US, but the current commission's role is to reassess and determine how well things are working to achieve the intended results. Our

> "We cannot allow distinctions in the approaches used to achieve our shared regulatory outcomes to become obstacles that jeopardise the overarching objective. We must see the forest through the trees"

markets are constantly evolving, and the CFTC's challenge of fulfilling the objectives established in Pittsburgh requires continual adaptation to current circumstances in order to avoid stagnation and obsolescence. As we review the appropriateness of our regulatory reach into foreign jurisdictions, we are already benefitting from the recent GMAC dialogue looking back on OTC derivatives reform progress and areas of needed harmonisation that require review in order to fulfil their objectives.

IQ: How would you rate progress in implementing the various G-20 reforms? Are there areas where you think modifications or improvements are necessary?

DS: Much progress has been made. I believe we should constantly be conducting a review of our efforts to ensure they are – and remain – fit for purpose. In fact, I think it is noteworthy that in 2009, in the midst of responding to the financial crisis, the G-20 leadership could foresee the need for such a lookback, and even included language in its directive to global regulators to "assess regularly implementation and whether it is sufficient to improve transparency in the derivatives markets, mitigate systemic risk, and protect against market abuse".

We must constantly look at our rules objectively. What were we trying to achieve and have we been successful? Has the market evolved in such a way that requires updated policies? Have we created a system that leads to the global application of common principles?

There are many areas in which we can better align policies among international partners, but one that I want to mention specifically is data. We must improve harmonisation of both data standards and data sharing. This is fundamental to achieving the G-20 objectives.

IQ: The Japanese presidency of the G-20 has identified market fragmentation as a key issue that needs to be addressed. How important is this issue, and how can it be achieved? What are the consequences of not tackling this?

DS: I applaud the Japanese presidency of the G-20 for proposing that the Financial Stability Board examines signs of market fragmentation. I also commend the International Organization of Securities Commissions (IOSCO) for establishing a follow-up group to the 2015 Task Force on Cross Border Regulation to better understand regulatory driven market fragmentation.

We have made progress in our attempts to address bifurcated liquidity pools by recognising that deference to comparable regulatory regimes helps mitigate the risk of fragmentation by fostering participation in cross-border markets. We cannot allow distinctions in the approaches used to achieve our shared regulatory outcomes to become obstacles that jeopardise the overarching objective. We must see the forest through the trees.

IQ: Could the level of supervisory cooperation and coordination across jurisdictions be improved? How?

DS: Of course, we should always strive to do better. Since arriving at the CFTC, I have found the international dialogue to be productive. As the new market structure for regulated OTC products continues to develop, we are just now able to see a big picture of what was envisioned 10 years ago. Cross-border issues remain a priority, and at the forefront of those discussions →

"We will never have the exact same rules around the globe. We should rather strive to minimise the frequency and impact of duplicative rules while also demanding comparability"

→ is CCP oversight. Regulated CCP infrastructure was hailed as a means to alleviate problems presented by the previous undesirable construct of interconnected bilateral OTC transactions. CCPs were not determined to be a contributing factor, but rather a potential solution in responding to the financial crisis. We must now resist any attempts to subject global CCPs to a confusing web of jurisdictional requirements that will inevitably create compliance conflicts and vulnerabilities rather than harmonised resilience in the global financial system.

I believe deference to comparable regulatory regimes is essential, and we should not negotiate via duelling rule proposals, but instead come to agreement based upon common goals and globally agreed principles and standards. We will never have the exact same rules around the globe. We should rather strive to minimise the frequency and impact of duplicative rules while also demanding comparability.

IQ: What are the priority areas in terms of working with your colleagues in other jurisdictions?

DS: Coordinating the timing of implementation across jurisdictions with different legislative and regulatory bodies is challenging. In fact, the CFTC has wrestled with a first-mover disadvantage, while other jurisdictions were forced to respond. Although these timing issues have complicated regulatory harmonisation, they are not insurmountable. We simply need to take stock of the current landscape as we continue "to take action at the national and international level to raise standards together so that our national authorities implement global standards consistently in a way that ensures a level playing field and avoids fragmentation of markets, protectionism, and regulatory arbitrage", as the G-20 leaders committed to do in 2009.

IQ: A large number of entities will be brought into scope of IM requirements for non-cleared derivatives in September, raising concerns about a compliance bottleneck. Has enough been done enough to address this issue?

DS: I have often raised this as a concern. The scope of this final phase of margin requirements for non-centrally cleared derivatives may not have been fully realised when developed due to the inaccurate assumption that material swaps exposure would move in concert with IM obligations. In reality, IM can vary dramatically across portfolios with the same notional amount of swaps. As a result, many of these phase-five firms would not have been required to exchange IM for a significant period of time following the compliance date, if at all, making this an exercise in futility, at least in the near term. In response, the CFTC has provided guidance to market participants, relieving them of the obligation to put in place documentation and systems they may never use. This is required only when entities reach the required $50 million threshold at which they are actually obligated to exchange IM. This action provides clarity and allows for resources to be directed toward counterparties that are more likely to exchange IM.

The Basel Committee on Banking Supervision and IOSCO recently agreed to extend the final implementation of IM requirements by one year to September 1, 2021 for entities with an aggregate average notional amount (AANA) of non-centrally cleared derivatives greater than €8 billion. They also introduced an additional implementation phase whereby entities with an AANA of non-centrally cleared derivatives greater than €50 billion would be subject to IM requirements on September 1, 2020. Conversations within international forums continue as to additional measures that may assist a smooth transition. Regulators around the world are committed to a global solution.

IQ: You've highlighted swap data reporting as one of the most critical components of the reform agenda. What more needs to be done to encourage data harmonisation?

DS: In the US, swap data reporting is a great example of an area where the CFTC can now look back and apply lessons learned. We need to streamline obligations, harmonise standards with our fellow regulators, potentially decrease the number of required reportable data elements to those that are most critical, extend the time delay for regulatory reporting to ensure we have the benefit of more valid data, and reduce the regulatory burden placed on end users.

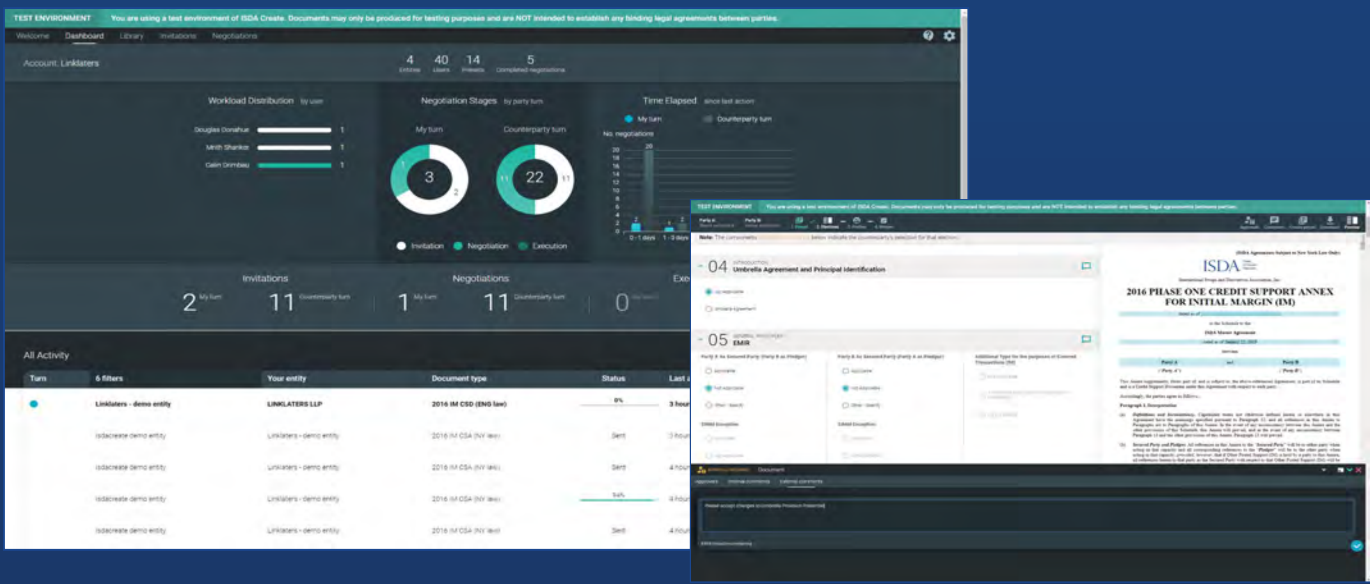
Internationally, the lack of global harmonisation in swap data reporting is an ongoing and substantial burden on market participants. Distinct reporting rules across jurisdictions increase costs and promote inefficiency by forcing trade repositories and counterparties to build and maintain different reporting mechanisms. International bodies, such as the Committee on Payments and Market Infrastructures and IOSCO, have achieved considerable progress with the development of technical standards. International regulators should cooperate to expeditiously implement these standards in a coordinated manner. IQ

ISDA Safe, Efficient Markets

What is ISDA Create?

ISDA Create is a new platform that allows firms to produce, deliver, negotiate and execute derivatives documents completely online. The system captures, processes and stores data from these documents, providing users with a complete digital record.

ISDA Create – IM is ISDA's first offering under ISDA Create, and allows firms to electronically negotiate and execute initial margin (IM) documentation. ISDA Create will be extended to other ISDA documents over time.



WHY ISDA CREATE – IM?

- Compliance with the IM regulations requires market participants to put additional IM documentation in place.
- Negotiation of these IM documents takes time and resources, adding an enormous strain on the ability of firms to comply with the rules.
- A wide universe of buy- and sell-side firms will come into scope of the IM regulations in 2019/20, creating the need for an industry tool that will allow market participants to efficiently negotiate IM documentation with large numbers of counterparties.

BENEFITS OF ISDA CREATE – IM

- Provides easy access to ISDA standard forms to produce, deliver, negotiate and execute IM documents with multiple counterparties simultaneously.
- Online functionality makes the negotiation process more efficient and less time consuming from start to finish.
- Allows firms to make standard elections, as well as customize on a party-by-party basis.
- Automatically reconciles both standard elections and bespoke provisions exchanged, and flags differences in an efficient and easy-to-read way.
- Allows firms to digitally capture, process and store the resulting data.
- Flexibility to take one or more steps offline if required.
- Removes the need for a post-execution transfer of data from negotiated documentation into internal systems and eliminates the chance of error during such a data transfer.
- Provides powerful commercial, risk management and resource management functions, data and analytics.
- Offers interactive dashboards, providing business stakeholders with real-time transparency to check which relationships have regulatory compliant documentation in place.

Want more information on ISDA Create or to arrange a platform demonstration?
Contact **ISDACreate@isda.org**

Spreading the Load

The Basel Committee on Banking Supervision and the International Organization of Securities Commissions have taken action to reduce the risk of a compliance bottleneck in September 2020, when the fifth phase of initial margin requirements kick in

It is often said that practice makes perfect. Do anything often enough, and it inevitably becomes easier. So, at the fourth time of asking, it might be assumed that the industry has become a dab hand at preparing for new phases of initial margin (IM) requirements for non-cleared derivatives.

That's true as far as it goes. Wrinkles that emerged during the first-phase rollout in 2016 have largely been ironed out. The roughly 25 firms expected to come into scope from September 2019 can benefit from the experience of others, established IM documentation and practices and a variety of tested industry solutions like the ISDA Standard Initial Margin Model and ISDA Create. But there are no shortcuts. IM calculation systems still need to be implemented and tested, documents need to be negotiated and executed, and custodial relationships need to be established. All this takes time and a lot of resources.

Which is why practice wouldn't have been a guarantor of success for the fifth phase of implementation next year, when the number of in-scope firms was due to soar by roughly 20-fold. It's also why standard setters have taken action in a series of measures to ease the burden on smaller, less systemically important entities. In the most recent development, the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO) announced a split in the phase-five implementation schedule over two years, giving the smallest in-scope firms an extra 12 months to prepare.

September 2020

IM rules will apply to firms with an AANA of greater than €50 billion

Compliance concerns

The move has come in response to growing concerns about the capacity of the industry to meet the deadline. According to ISDA analysis, more than 1,100 entities representing 9,500 counterparty relationships would have become subject to the requirements in September 2020, when the threshold for compliance was scheduled to fall from €750 billion to €8 billion in non-cleared derivatives aggregate average notional amount (AANA). That compares with roughly 60 entities in total during the first four phases.

That means the scale of the implementation effort would have been many times greater than anything seen so far, raising concerns about a compliance bottleneck that could have resulted in many small firms being locked out of the non-cleared derivatives market, at least temporarily.

"Phase five of the IM requirements would have led to a large number of smaller firms coming into scope of the rules, way in excess of the numbers seen so far. As per the original framework, this would have required the negotiation of new documentation with every counterparty and the setting up of two custodial accounts for each relationship – a significant operational lift and a big stretch on industry resources," says Tara Kruse, global head of infrastructure, data and non-cleared margin at ISDA.

Response

An initial response by the BCBS and IOSCO was published on March 5. In a statement, the organisations stated that counterparty relationships with exposures below a €50 million IM exchange threshold aren't required to meet documentation, custodial or operational requirements.

This went some way to easing the risk of a pre-September 2020 compliance logjam. According to ISDA analysis, between 70%-80% of the 9,500 relationships originally expected to come into scope under phase five of the margin rules will not actually be required to post IM for a significant period of time following September 2020, if ever, because their exposures fall below the €50 million IM exchange threshold.

However, it wasn't initially clear whether or how the guidance will be implemented by national authorities. The BCBS/IOSCO statement also didn't completely eliminate the compliance challenge for smaller phase-five firms, even if all their counterparty relationships fall below the €50 million exposure threshold. These entities will still need to continually calculate and monitor threshold levels, implement IM calculation systems, identify in-scope transactions and run regular IM calculations (see box, US Phase Five IM Calculations Begin).

"It is important national regulators provide certainty that documentation and custodial requirements will not initially apply for those relationships below the €50 million IM exchange threshold. By adopting a risk-based approach, it will enable the industry to focus its efforts on ensuring larger firms that are likely to post IM are ready to comply. It will also ensure smaller, non-systemically important entities that are not required to post IM are not burdened with unnecessary operational costs," says Scott O'Malia, ISDA's chief executive.

Clarity

The Hong Kong Monetary Authority was the first to provide clarity, issuing a statement on March 18 that made clear its rules do not specify a requirement for IM documentation, custodial or other related operational arrangements to be in place before a covered entity crosses the IM exchange threshold.

This was followed by a letter from Commodity Futures Trading Commission chairman J. Christopher Giancarlo to Federal Reserve vice chair for supervision Randal Quarles in April. That letter recommended US regulators issue guidance that unambiguously provides relief for counterparty relationships that don't exceed the $50 million IM exchange threshold under US requirements.

A large number of entities will come into scope of the US IM requirements from September 2020, the letter reads. "And many of these entities are realising that, while their notional amounts exceed $8 billion, their calculated initial margin amounts are less than $50 million. In other words, they will soon be required to incur the expenses of preparing to exchange initial margin even though they will never actually be required to exchange margin," Giancarlo wrote.

Further clarity has subsequently emerged. On June 28, Canada's Office of the Superintendent of Financial Institutions issued guidance confirming the BCBS/IOSCO statement. Then, on July 9, the CFTC issued an advisory note clarifying that documentation governing the posting, collection and custody of IM is not required until counterparties exceed the $50 million IM exchange threshold.

"With weeks until the start of the phase-four implementation and a little more than a year until phase five, it was important for this clarification to be issued. By providing certainty that documentation and custodial requirements will not initially apply for these relationships, the industry will be able to focus its efforts on ensuring larger firms that are likely to post IM are able to meet the requirements," says ISDA's Kruse.

Delay

More recently, the BCBS and IOSCO have taken additional action to further reduce the risk of a September 2020 snarl-up. On July 23, the two organisations recommended a staggered phase-five implementation over two years. As a first step, those entities with an AANA of greater than €50 billion would come into scope from September 2020, in line with the original implementation schedule. →

US PHASE-FIVE INITIAL MARGIN CALCULATIONS BEGIN

Under US rules, financial end users potentially subject to the phase-five implementation of initial margin (IM) requirements began running aggregate average notional amount (AANA) calculations from the start of June, in order to determine if the IM rules will apply to them.

Globally, firms have recently completed AANA calculations to determine their eligibility for phase four, which begins from September 1, 2019. The rules stipulate the calculation must be made using non-cleared derivatives exposures from March, April and May this year. But, under US rules, the phase-five calculation period runs immediately afterwards – June, July and August 2019. For all other jurisdictions, the calculation period for phase five is March, April and May 2020.

That means those financial end users that may be subject to US IM requirements – either directly or through their US counterparties – will be close to knowing whether they need to comply. Unlike most of the world, US regulations require the calculation of the average daily aggregate notional amount (other jurisdictions typically use a month-end average). So, US firms need to identify all AANA covered products, convert the notional amounts of those non-cleared transactions to US dollar, and then add the notional amounts together.

This has to be repeated each day over the three-month interval. At the end of the calculation period, the total is divided by 64 (the total number of business days) to arrive at the final AANA. If that number is above the threshold for phase-five compliance under US rules, then firms will need to notify all their counterparties that they are in scope as soon as possible.

ISDA has provided a number of ways to do this – an ISDA initial margin self-disclosure letter can either be sent to counterparties bilaterally or electronically via ISDA Amend to other ISDA Amend participants. Alternatively, firms can participate in ISDA's multilateral IM self-disclosure exercise, which involves the relevant information being shared with other contributing entities from all IM phases.

These steps need to be followed even if US prudential regulators provide certainty that documentation, custodial and operational requirements will not apply to counterparty relationships below the $50 million IM exchange threshold.

To help firms that may be subject to the phase-five implementation under US rules, ISDA has published a note that summarises and explains the requirements for US AANA calculations: https://bit.ly/2IpeYNs

"The decision to split the phase-five implementation over two years will reduce the risk of a compliance bottleneck in September 2020, and will help ensure smaller firms will have longer to get the necessary systems and processes in place"

Scott O'Malia, ISDA

→ However, smaller firms with an AANA of greater than €8 billion would have an extra year to prepare, with the implementation date revised to September 2021.

"The Basel Committee and IOSCO have agreed to this extended timeline in the interest of supporting the smooth and orderly implementation of the margin requirements, which is consistent and harmonised across their member jurisdictions and helps avoid market fragmentation that could otherwise ensue," the two organisations said in a statement.

According to initial ISDA analysis, the change will mean about one-third of the 1,100 entities and one-third of the relationships originally in scope for phase five will have to meet the September 2020 deadline, while the remainder will now have until September 2021 to comply. Of those counterparty relationships that are still in-scope from September 2020, approximately 28% may breach the €50 million IM exchange threshold within the first two years of their regulatory IM obligation.

"We are grateful that the BCBS and IOSCO have responded to the concerns that have been raised by the industry. The decision to split the phase-five implementation over two years will reduce the risk of a compliance bottleneck in September 2020, and will help ensure smaller firms will have longer to get the necessary systems and processes in place," says O'Malia.

Margin amounts

According to ISDA research, the 20 largest market participants collected approximately $157.9 billion of regulatory and discretionary IM for their non-cleared derivatives transactions at year-end 2018.

Of this amount, $83.8 billion was collected from counterparties currently in scope of the margin regulatory requirements. A further $74.1 billion of discretionary IM was collected from counterparties and/or for transactions not currently in scope of the rules. In addition to these amounts, phase-one firms reported they had set aside $39.4 billion of IM for their inter-affiliate derivatives transactions to meet US prudential rules at year-end 2018.

"ISDA supports the goal of reducing systemic risk. It's imperative that regulators continue to assess the margin rules to ensure they are aligned with the key policy objective of mitigating systemic risk," says O'Malia. IQ

STEPS TO TAKE TO MEET THE INITIAL MARGIN REQUIREMENTS

Step 1: Identify in-scope entities early
Determine which of entities are likely to be in-scope for planning purposes.

Step 2: Make early disclosure to counterparties
Firms should disclose the status of estimated in-scope entities to counterparties in order to provide enough time to complete all steps with each party.

Step 3: Exchange information on compliance
Important decisions need to be made about how firms will comply with the initial margin requirements. This information should be exchanged with each counterparty.

Step 4: Identify special cases
Determine whether any special cases apply.

Step 5: Establish custodial relationships
Firms should establish relationships with the relevant custodians, and provide information on all in-scope counterparty relationships.

Step 6: Prepare for compliance
Firms will need to build up the necessary capacity for compliance in advance.

Step 7: Negotiate/execute documentation
The necessary documentation will need to be negotiated and put in place with each counterparty ahead of the implementation date.

Step 8: Finalise preparations
Check all necessary relationships are up and running, and everything has been tested.

| A more detailed version of this checklist is available here: https://bit.ly/2JrPiPr

Policy Priorities

In the first of a new series spotlighting major policy issues in key regions, ***Chris Young****, head of US public policy, outlines ISDA's regulatory priorities in the US*

Looking ahead to the end of 2019 and beginning of 2020, ISDA's US public policy team will focus on the remaining post-crisis reforms, as well as the Trump administration's regulatory reform agenda.

In early 2017, the Trump administration initiated a review of financial services regulation, which culminated in a series of reports and recommendations by the US Department of the Treasury. The second report in October 2017 highlighted a number of key areas of focus, including harmonisation of Commodity Futures Trading Commission (CFTC) and Securities and Exchange Commission (SEC) rules sets, and adjustments to the initial margin (IM) requirements for non-cleared derivatives, among other things. Most of the recommendations are still under consideration by the regulators, but there could be some developments in the coming months.

Inter-affiliate IM requirements

One recommendation was to exempt inter-affiliate swaps from IM requirements, on the basis that posting IM between affiliates of a bank or bank holding company can create liquidity constraints and lock up margin that could be deployed more productively elsewhere. While US prudential regulators have included an IM requirement for inter-affiliate swaps, other regulators – including the CFTC – have not.

ISDA has continued to flag this issue and recommend harmonisation with other regulators. In recent months, congressional interest in this issue has increased, and it is possible that banking agencies will take action in the second half of the year.

IM requirements

ISDA has also highlighted the risk of a compliance bottleneck in September 2020, when a large number of small firms are set to come into scope of IM requirements.

In response, the Basel Committee on Banking Supervision and the International Organization of Securities Commissions announced on July 23 that only those firms that exceed a new €50 billion non-cleared derivatives notional threshold would come into scope from September 2020. Smaller entities – those above an €8 billion threshold – would have an extra year to comply. Efforts are now focused on ensuring national supervisors make this change in their rules.

Split jurisdiction

Another focus in the Treasury report was the bifurcated oversight of the US swaps and security based swaps markets. ISDA strongly supports harmonisation between the CFTC and SEC rule-makings in order to reduce complexity and compliance costs. As the SEC has still to finalise its Title VII rules, there is scope for close alignment – and recent SEC rules have given grounds for optimism. But with both agencies set to address their cross-border rules in the current months, continued engagement on this issue is crucial.

Benchmark reform

An important area of focus has been whether an amendment of contractual terms – for instance, through the replacement of US dollar LIBOR with SOFR or the inclusion of new fallback language – would result in legacy swaps being brought into scope of margin, clearing and other regulatory requirements. US regulators have indicated a willingness to address any regulatory impediments to benchmark reform. As a result, the industry is working to raise awareness with policy-makers and ensure any regulatory relief is tailored to cover amendments related to the shift from US dollar LIBOR and other key IBORs. IQ

ISDA US PUBLIC POLICY

Chris Young is ISDA's head of US public policy, based in Washington, DC. The US public policy team represents ISDA's members on US regulatory and legislative issues, and involves regular coordination and interaction with Congress, the administration and US regulatory agencies.

Fragmentation in Margin Rules

Jurisdictional differences in the implementation of margin requirements have contributed to market fragmentation and created undue costs and complexity for derivatives users

Jurisdictions across the globe have implemented margin requirements for non-cleared derivatives, largely in line with the standards agreed by the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO). Since implementation of the first phase of the requirements in 2016, the US, European Union (EU), Japan and others have extended the requirements in line with the phase-in schedule agreed by the BCBS and IOSCO.

Consistency in requirements has enabled the industry to develop and implement consistent solutions to aid compliance. Nonetheless, differences in the implementation across jurisdictions still exist in certain key areas – for example, eligible collateral, settlement time frames and treatment of inter-affiliate transactions. These inconsistencies create unnecessary complexity and costs for derivatives users and contribute to market fragmentation.

Global framework

In November 2011, two years after the Pittsburgh summit, the Group-of-20 (G-20) leaders agreed to add margin requirements for non-centrally cleared derivatives to the G-20 commitments.

The Working Group on Margin Requirements (WGMR), a committee jointly run by the BCBS, IOSCO and other international organisations, subsequently established regulatory standards for implementing margin requirements. As well as setting initial margin (IM) and variation margin (VM) requirements, the WGMR framework established standards for margin calculation methodologies, minimum scope, documentation and segregation.

Eight years on from the G-20 commitment on margin, a significant number of jurisdictions have implemented IM and VM requirements for their largest market participants. Consistent with the WGMR framework, those jurisdictions that have implemented IM and VM requirements have phased in compliance over time, initially capturing the largest market participants. Smaller market participants will come into scope of the margin requirements in September 2020 and September 2021.

As a result of these reforms, firms now post more collateral to cover potential adverse changes in the value of derivatives transactions. The 20 largest market participants had collected $157.9 billion in IM by the end of 2018. VM collected by those same firms totalled $858.6 billion over the same time period.

Industry solutions

In developing the WGMR framework, the BCBS and IOSCO strived to develop consistent standards to avoid potential conflicts, duplication and gaps across jurisdictions. This included a common framework for determining the thresholds at which IM and VM requirements would apply, as well as standards on the two-way exchange of IM, types of eligible collateral for IM, collateral segregation, the use of internal models and IM calculation.

Consistent standards have allowed the industry to develop standardised IM and VM documentation, as well as a standard model for calculating IM that can be used across jurisdictions – the ISDA Standard Initial Margin Model (ISDA SIMM). The industry's wide adoption of the ISDA SIMM has allowed market participants to use a common and transparent IM methodology globally.

As large numbers of smaller market participants come into scope of the margin requirements in September 2020 and September 2021, they will be required to put IM documentation in place, creating the need for an industry solution that will allow market participants to efficiently negotiate IM documentation with large numbers of counterparties.

One example of an industry solution is ISDA Create, an online tool that allows firms to electronically negotiate and execute documentation and consume the resulting legal data electronically after execution. The service launched with an initial margin module in January 2019.

Jurisdictional differences

However, despite efforts by global regulators to harmonise margin standards, there are aspects of the requirements that are not being implemented in a consistent manner across all jurisdictions. A report on market fragmentation and cross-border regulation by IOSCO, published in June 2019, notes that divergences in implementation of non-cleared margin rules "may have led to fragmentation in trading patterns in the absence of deference to the rules of the home jurisdiction".

TABLE 1: ELIGIBLE COLLATERAL FOR INITIAL MARGIN IN KEY JURISDICTIONS

US	EU/UK	Japan	Singapore
1. Cash **2.** Gold **3.** US Treasury or agency bonds **4.** Publicly traded debt securities issued or guaranteed by US government sponsored enterprises **5.** Securities issued by or fully guaranteed by the European Central Bank or certain other sovereigns[1] **6.** Certain publicly traded debt **7.** Publicly traded equity listed in certain indices **8.** Securities issued by certain investment funds	**1.** Cash **2.** Gold **3.** Government debt securities **4.** Debt securities issued by credit institutions and investment firms **5.** Regional and local government debt securities and public sector entities **6.** Debt securities issued by certain multilateral development banks and international organisations **7.** Corporate bonds **8.** The most senior tranche of a securitisation that is not a resecuritisation **9.** Convertible bonds convertible into a main equity index **10.** Equities included in a main index **11.** Certain undertakings for collective investment in transferable securities (UCITS)	**1.** Cash **2.** Certain government debt securities, local government debt securities, multilateral development bank debt securities **3.** Certain other higher quality debt securities **4.** Investment trusts meeting certain conditions	**1.** Cash **2.** Gold **3.** Certain debt securities[2] **4.** Equity securities in a main stock index of a regulated exchange[3] **5.** Units in a collective investment scheme where: (a) a price for the units is publicly quoted daily; and (b) the collective investment scheme is limited to investing in the instruments in this list
Hong Kong	**Australia**	**Switzerland**	**Canada**
1. Cash **2.** Gold **3.** Debt securities of multilateral development banks **4.** Certain debt securities of sovereign, public-sector entities and other entities **5.** Equities in the Hang Seng index or main indices of certain futures and stock exchanges	**1.** Cash **2.** Gold **3.** Certain debt securities with conditions on issuer type and specified rating **4.** Covered bonds rated by an ECAI with a credit rating of three (or better) **5.** Certain senior securitisation exposures **6.** Equities included in a major stock index	**1.** Cash **2.** Gold **3.** High-quality debt instruments issued by certain public-sector entities **4.** High-quality debt instruments of companies **5.** High-quality mortgage bonds and covered debt instruments **6.** Certain shares listed on a main index, including convertible bonds **7.** Certain units in securities funds	**1.** Cash **2.** Gold **3.** Certain debt securities with specified ratings **4.** Certain bank debt securities that are not rated by an external credit assessment institution **5.** Equities included[4] in a main index **6.** Equities[4] that are not included in a main index but are listed on a recognised exchange **7.** Certain UCITS/mutual funds

[1] Specifically, with a capital risk weighting of 20% or less, securities of the Bank for International Settlements, the International Monetary Fund or multilateral development banks

[2] Specifically, with an original maturity of one year or less (F-1 to F-3 for all issuers); debt securities with an original maturity of more than one year (AAA to BB- for central government or central bank issuers, AAA to BBB- for other issuers)

[3] Defined in relation to securities included in a stock main index to mean an exchange approved, licensed or otherwise regulated by the Monetary Authority of Singapore (MAS) or by a financial services regulatory authority other than the MAS

[4] Including convertible bonds

While divergences between individual jurisdictions' rule sets may appear minor or inconsequential, they can have a significant impact due to the global nature of the derivatives markets – particularly when building a compliance framework that can be used with counterparties across multiple jurisdictions.

There are five key areas of divergence in the margin framework, which are analysed in this article.

IM collateral eligibility

Some jurisdictions do not permit the full spectrum of collateral types for IM allowed by the WGMR framework (see Table 1). As a result, counterparties trading across borders can only use collateral types permitted in both jurisdictions. This increases costs and inefficiencies in cross-border trading as market participants have to build complex processing logic to account for the different eligibility requirements of individual jurisdictions.

In addition, concentration of collateral in a limited number of assets may be problematic in times of financial stress, when the value of collateral fluctuates and can be difficult to liquidate, creating systemic risk concerns for firms operating globally.

Settlement time frames

The T+1 time frame imposed by some regulators, including the US, is not operationally practicable for both VM and IM (see Table 2). Proper calculation of the margin amount can only be made after the firm's branches and offices are closed worldwide. Since global organisations operate in different time zones, firms find it difficult to transact in jurisdictions that require T+1 settlement. This →

TABLE 2: REQUIREMENTS FOR INITIAL MARGIN SETTLEMENT TIMING IN KEY JURISDICTIONS

US	EU/UK	Japan	Singapore
IM must be settled on the business day following execution (T+1).	IM must be settled no later than two business days after execution (T+2). (IM must be calculated on T+1, then settled one business day after calculation.)	No specific business day requirements – IM must be called "immediately after" it is calculated and must be settled "without delay" after the call.	IM must be settled no later than three local business days from the transaction date (T+3).
Hong Kong	**Australia**	**Switzerland**	**Canada**
IM must be called within one business day following execution and settled within two business days from when IM is called (T+3).	Settlement of IM amounts must be "prompt".	IM must be paid on the business day following execution. Customary time frames apply for settlement (T+2).	IM must be calculated and called within two business days after execution, and IM must be settled on the second business day following each call for IM (T+4).

→ is particularly problematic in the context of VM and for Asian counterparties transacting with entities located in the US.

This issue is exacerbated by the fact that the time necessary to settle collateral varies according to the normal settlement cycle for that instrument. The T+1 requirement prevents firms from using collateral types with longer settlement cycles.

In addition, once margin rules become effective for smaller market participants, they may not have the operational means to transfer eligible collateral within a T+1 time frame. This may prevent these entities from accessing liquidity provided by dealers in T+1 jurisdictions. These dealers will be placed at a competitive disadvantage when compared with those subject to more flexible settlement timing requirements.

IM treatment for inter-affiliate transactions

Inter-affiliate trades enable firms to centralise their risk management activities. A European company, for example, might prefer to enter into a swap with a local, European-based subsidiary of a US financial institution. However, that institution might choose to consolidate its exposure in a centralised, global risk management function. Its subsidiary would therefore enter into an offsetting transaction with the risk management function. That internal, offsetting trade is known as an inter-affiliate or internal risk management transaction.

Critically, inter-affiliate transactions do not raise systemic risk concerns because they do not create additional counterparty exposure outside of the corporate group and do not increase interconnectedness between third parties. Instead, inter-affiliate transactions allow firms to manage their risk in a centralised way that ultimately limits overall credit exposure to third parties.

Requiring the exchange and segregation of IM for inter-affiliate transactions diverts capital away from more efficient uses in the market, makes it more difficult for firms to manage their risks, and puts firms subject to inter-affiliate margin requirements at a competitive disadvantage. At year-end 2018, the top 20 derivatives dealers had posted approximately $40 billion in inter-affiliate IM.

The US is the only jurisdiction that currently requires banks to exchange inter-affiliate IM, although the EU will impose IM requirements on inter-affiliate trades in 2020.

IM model governance obligations

For calculating IM amounts, all jurisdictions permit the use of either a standard schedule (provided in the rules) or a quantitative model, such as the ISDA SIMM. Certain jurisdictions require firms that elect to use quantitative models to obtain pre-approval prior to model use. That is true even if the model is used broadly across the industry and is subject to robust governance, like the ISDA SIMM.

In addition, prudential-style model governance obligations apply to IM model users in many jurisdictions, including requirements to regularly back-test the model on a periodic basis and establish an internal governance process. In the US, these requirements only affect dealers, but they apply in other jurisdictions to both dealing and non-dealing counterparties.

Smaller firms in jurisdictions that impose back-testing and model governance requirements (eg, the EU) may not have the resources or expertise to establish internal governance processes and conduct ongoing monitoring of model performance. They will therefore have to use the standard schedule that provides a less risk-sensitive IM calculation methodology and could lead to higher IM costs. As a result, non-dealer entities in certain jurisdictions will be disadvantaged versus non-dealers in the US.

IM product scope

IM calculations are based on a specific product set defined each jurisdiction (see Table 3). Parties subject to the margin rules of multiple jurisdictions may perform separate calculations and use the highest amount for their margin call to ensure compliance with all applicable regulations.

To reduce the costs and resource constraints associated with IM calculations, regulators should allow firms to use a broad product set (ie, products that are out-of-scope or exempt in their jurisdiction) for the purposes of calculating IM. This would allow all trades under a netting agreement to be included in the portfolio on which IM is calculated and eliminate the need to perform numerous calculations.

The ability to perform a single global calculation reduces operational complexity, implementation costs, and the potential for disputes to arise from disparate treatment of product sets, further facilitating cross-border trading.

Further divergence

Market participants that trade in excess of a certain IM threshold are presented with a number of implementation and operational challenges, including documentation of

TABLE 3: INITIAL MARGIN PRODUCT SCOPE REQUIREMENTS IN KEY JURISDICTIONS

US	EU/UK	Japan	Singapore
All non-cleared swaps and security based swaps, except: (1) physically settled FX forwards and swaps; (2) exchange of principal on cross-currency swaps; (3) equity options; (4) equity forwards; and (5) physically settled forwards.	All non-cleared derivatives, except: (1) physically settled FX forwards and swaps; and (2) exchange of principal on cross-currency swaps. Requirements are deferred for single-stock equity and index options until 2020. Note: Broad product set – if a third-country counterparty's jurisdiction uses a definition of OTC derivatives that is different from that under EMIR, margin may be calculated for all contracts that meet either definition, provided the third-country counterparty is subject to OTC derivatives margin requirements under its own regulatory regime.	All non-cleared derivatives, except: (1) exchange of principal on cross-currency swaps; (2) physically settled FX forwards and swaps; (3) physically settled forwards; and (4) commodity trade options. Note: Allows for a broad product set, including out-of-scope instruments and exempted in-scope instruments that were not subject to margin requirements at the time when the relevant transaction was executed.	All non-cleared derivatives except: (1) physically settled FX forwards and swaps, including a fixed physically settled FX transaction associated with the exchange of principal of a cross-currency swap; (2) commodity derivatives entered into for commercial purposes; and (3) a non-cleared contract without a legally enforceable netting agreement or collateral arrangement.
Hong Kong	**Australia**	**Switzerland**	**Canada**
All non-cleared swaps except: (1) physically settled FX forwards and swaps; (2) exchange of principal on cross-currency swaps; (3) physically settled commodity forwards; (4) single-stock options, equity basket options and equity index options (until March 2020); and (5) physically settled forwards.	All non-cleared derivatives except: (1) physically settled FX forwards and swaps; and (2) exchange of principal on cross-currency swaps.	All non-cleared derivatives, except: (1) physically settled foreign exchange swaps and forwards; (2) certain physically settled electricity and gas derivatives; (3) certain derivatives linked to freight, climate or economic statistics; and (4) the currency component (as opposed to interest rate component) of certain cross-currency swaps.	All non-cleared derivatives, except: (1) physically settled FX forwards and swaps; (2) exchange of principal on cross-currency swaps; and (3) physically settled forwards.

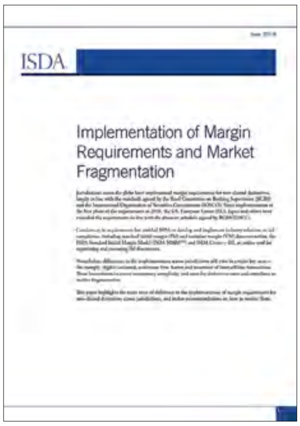
every bilateral relationship in line with the regulatory requirements of each jurisdiction in which they trade.

This documentation requirement would have forced smaller firms that pose no systemic risk and would have exchanged very little or no margin to take on the full panoply of implementation and compliance burdens. Such an outcome is not consistent with global policy objectives to curtail systemic risk associated with trading non-cleared derivatives.

To address this concern, the BCBS and IOSCO issued a statement in March 2019 noting that the WGMR framework "does not specify documentation, custodial or operational requirements if the bilateral initial margin amount does not exceed the framework's €50 million initial margin threshold". Following this announcement, the Commodity Futures Trading Commission, the Hong Kong Monetary Authority (HKMA) and Canada's Office of the Superintendent of Financial Institutions made similar clarifications with respect to their margin requirements.

ISDA supports the BCBS/IOSCO efforts to reduce the compliance burden for smaller firms that do not pose systemic risk. It is critically important that global regulators implement the BCBS/IOSCO statement in a consistent manner to minimise any potential divergences across jurisdictions and reduce the potential for competitive disadvantages.

ISDA strongly supports the implementation of robust margin requirements. However, industry experience with implementation has shown that the effectiveness of the requirements depends on whether and to what extent global margin standards are consistently implemented by local jurisdictions. Consistency enables the industry to build effective tools for implementation, such as IM and VM documentation, the ISDA SIMM and ISDA Create.



ISDA

Implementation of Margin Requirements and Market Fragmentation

While IM and VM reduces counterparty credit risk and has the potential to mitigate systemic risk, divergence in the implementation of IM and VM requirements across jurisdictions contributes to market fragmentation, increases the cost and complexity of cross-border trading and decreases access to global liquidity pools. Aligning margin requirements in key areas would significantly reduce these negative market impacts without compromising overall policy objectives. IQ

This is an edited version of an ISDA whitepaper, *Implementation of Margin Requirements and Market Fragmentation*. The full version of the whitepaper is available here: https://bit.ly/2Zu6xpJ

A Question of Calibration

Quantitative impact testing on the CVA capital rules has revealed serious design and calibration issues that could result in a disproportionate increase in capital requirements, contrary to the Basel Committee's objectives

The game of Jenga, in which 54 wooden blocks are used to create a tower that gets gradually higher as blocks are removed and added to the top, has fascinated children and adults alike for years. As new layers are added, the lower levels have to be evenly balanced to avoid toppling the whole structure. In other words, without firm foundations, the tower becomes increasingly fragile and its growth is unsustainable.

The process of enhancing the regulatory capital framework bears certain similarities to the building of a Jenga tower. The objective of Basel III was to strengthen the resilience of banks and ensure they hold sufficient capital and liquid assets to cover their risks. This has been achieved through a series of individual measures, including higher capital and the introduction of liquidity and leverage ratios. But if any one component is excessively conservative or inappropriately calibrated, it could create instability and constrain economic growth.

In developing Basel III over the past decade, the Basel Committee on Banking Supervision has always sought to correct areas of the framework that are not quite right, recalibrating where necessary to make sure the standards achieve their objectives without imposing unnecessary burdens. Much progress has been made to develop a finely balanced framework that increases resilience without constraining growth, but there are certain areas where some further revisions are still necessary.

Among the most pressing is the credit valuation adjustment (CVA) capital charge. Specific design and calibration issues in the framework could lead to a disproportionate increase in capital requirements and a sharp fall in the efficiency of counterparty credit spread hedging. Industry participants are concerned that without some adjustment, the rules could cause unintended consequences due to poor risk sensitivity.

"It is not clear that the CVA framework meets the objectives set out by the Basel Committee, and there is an increased sense from our analysis that the requirements would put an excessive burden on market participants. We recognise that the implementation of Basel III should not be delayed, and have therefore suggested a very

> "It is not clear that the CVA framework meets the objectives set out by the Basel Committee, and there is an increased sense from our analysis that the requirements would put an excessive burden on market participants"
>
> **Panayiotis Dionysopoulos, ISDA**

targeted revision of the framework to address the outstanding issues," says Panayiotis Dionysopoulos, head of capital at ISDA.

Reviewing objectives

As with most components of Basel III, the CVA framework has had a long gestation period, going through multiple rounds of consultation, drafting and review. The overarching objective of the requirements – to capture potential mark-to-market losses from derivatives as a result of deterioration in a counterparty's creditworthiness – has not changed, but the actual methodology for calculating CVA capital has proved challenging to get right.

Back in July 2015, the Basel Committee presented a proposal for a set of revisions to the original CVA framework. In a consultation paper it issued at the time, the committee set out three objectives, which can be used as a benchmark against which to assess the final framework.

First, the Basel Committee recognised that the original framework did not adequately cover the exposure component of CVA, which is an important driver of CVA risk, and consequently did not recognise the hedges that banks put in place to target the exposure element of CVA variability. The 2015 proposals sought to address this by taking into account the exposure component of CVA risk along with its associated hedges, thereby aligning the economic risks with capital requirements and reducing the incentive for banks to leave some risks unhedged.

Second, the Basel Committee sought to bring about greater alignment between regulatory CVA and accounting CVA, in recognition of the fact that the regulatory CVA formula did not incorporate many of the hedging strategies banks employ under various accounting regimes. The third and final objective in 2015 was to align CVA with the approaches used in the revisions to the market risk capital framework, known as the Fundamental Review of the Trading Book (FRTB).

The final CVA standards were issued in December 2017, alongside a number of other revisions to the Basel III framework that were endorsed by the Basel Committee's oversight body. The most immediate and significant change to CVA in the final standards was the complete removal of the option to use internal models to calculate capital. While regulators had previously expressed some misgivings about the effectiveness of internal models, it was not expected that the option would be completely removed.

However, the Basel Committee reasoned that CVA is a complex risk and, given it is more complex than the majority of risks in banks' trading books, it cannot be modelled in a robust and prudent manner. This leaves banks with a choice of two approaches to calculate CVA capital – the standardised approach (SA-CVA) and the basic approach (BA-CVA).

"We recognise that the removal of internal models, while disappointing, will not be reversed and we do not expect a complete rewrite of the CVA standards at this point. However, there are still issues with the framework that need to be addressed to avoid unintended consequences and a reduction in hedging efficiency," says Emmanuel Ramambason, financial markets global head for portfolio risk management at Standard Chartered Bank.

Impact testing

While the removal of internal modelling was the most obvious change when the final standards were published in December 2017, the time that has elapsed since then has allowed market participants to more closely scrutinise and test the rules.

A quantitative impact study (QIS) conducted in the second half of 2018 analysed data submitted by 17 global systemically important banks, and found that the CVA rules as currently calibrated would lead to a substantial increase in risk-weighted assets (RWAs) and capital requirements. While the QIS was conducted on a confidential basis and the results are therefore not public, its overall findings seem to be at odds with the Basel Committee's stated objective of avoiding undue increases in capital requirements.

ISDA, the Global Financial Markets Association and the Institute of International Finance have written to the Basel Committee to present the results of the QIS and to detail the key issues identified as being →

WHAT IS CVA?

Credit valuation adjustment (CVA) is a change to the fair value (or price) of derivatives instruments to account for counterparty credit risk. This price depends on counterparty credit spreads, as well as on the market risk factors that drive the value of derivatives and, therefore, exposure.

During the financial crisis, banks suffered significant counterparty credit risk losses on their over-the-counter derivatives portfolios. The majority of these losses came not from counterparty defaults but from fair value adjustments on derivatives. The Basel III CVA capital charge aims to capitalise the risk of future changes in CVA.

"There are still issues with the framework that need to be addressed to avoid unintended consequences and a reduction in hedging efficiency"

Emmanuel Ramambason, Standard Chartered Bank

CVA TIMELINE

December 2010
The Basel Committee publishes the Basel III standards, including a revised metric to better address counterparty credit risk, CVA and wrong-way risk.

July 2015
The Basel Committee publishes a review of the CVA framework for consultation, designed to capture all CVA risks and better recognise CVA hedges, align with industry practices for accounting purposes and align with proposed revisions to the market risk framework.

October 2015
Deadline for comments on the proposed changes to CVA.

→ problematic in the final framework, as well as suggesting some potential alternatives and solutions.

"The increase in capital requirements highlighted by the QIS is a real concern," says ISDA's Dionysopoulos. "While it may not constitute a large portion of overall capital requirements, it is a significant driver of RWAs for derivatives, and could therefore have an adverse impact on the ability of commercial end users to access derivatives markets and manage their risks."

The QIS also assessed the effect of using risk weights from the revised standardised approach for interest rates and foreign exchange in the FRTB, but found this had very little impact on RWAs, with the majority of the impact coming from counterparty credit spread risk. ISDA's analysis focused on two key issues that have led to the conservative calibration: the poor recognition of counterparty credit spread hedges, and the lack of alignment between accounting CVA and regulatory CVA.

"Hedge recognition is a key issue because the framework doesn't reflect how CVA desks manage risk, and the mismatch with accounting CVA is equally important. The framework should be capitalising against actual losses in accounting CVA, but if banks don't hold a level of capital that reflects the actual volatility of accounting CVA, then that objective is not met," says a senior CVA trader at a European bank.

In addition, further issues should be considered to improve the calibration and granularity of the rules. "One of the problems with the counterparty credit spread risk weights in the new CVA standards is that there is limited risk sensitivity. For example, there are only two risk weights for counterparty credit exposures to financials and this includes a wide range of counterparties, such as pension funds and government-backed entities. The Basel III standardised CVA approach, which was finalised in 2011 and is in use now, has a more granular approach to defining the risk weights for counterparty credit spreads," says Nicola Mariano, assistant director in the risk and capital team at ISDA.

Hedge recognition
The crux of the issue over hedge recognition lies in the way CVA desks typically manage their risks. In the absence of a liquid single-name credit default swap (CDS) market that can be used to hedge the whole portfolio, banks typically use a mix of single-name CDS and liquid CDS indices as proxy hedges to mitigate counterparty credit risk at the overall portfolio level.

Under the revised SA-CVA, index CDS are decomposed into a collection of single-name instruments and allocated across buckets. However, treating an index CDS hedge as a selection of single-name hedges is inconsistent with the economic purpose of index CDS hedges, which is to hedge systematic counterparty credit spread risk. It therefore does not account appropriately

> "The poor recognition of CVA hedges can create perverse incentives for banks, as unhedged positions could attract lower capital requirements compared to hedged positions"

Nicola Mariano, ISDA

December 2017

The Basel Committee publishes final minimum capital requirements for CVA risk, alongside other components of Basel III, removing the option to use internal models to calculate CVA capital.

July 2019

The European Banking Authority identifies CVA as a key driver of capital for European banks, with further advice due to be delivered to the European Commission later this year.

January 2022

Implementation deadline for the revised CVA standards, set by the Basel Committee but subject to regional and national legislation.

for this aspect of CVA hedging in cases where the assumed hedged CVA positions are allocated in different buckets.

"The poor recognition of CVA hedges can create perverse incentives for banks, as unhedged positions could attract lower capital requirements compared to hedged positions," says ISDA's Mariano.

Based on feedback from the technical industry working group, ISDA has suggested that the framework should be amended to introduce the option for separate counterparty credit buckets for indices. As in the FRTB, the CVA rules could allow banks to assign indices to separate counterparty credit buckets alongside an appropriate correlation across buckets.

"Fundamentally, it makes no sense to have a situation where buying more insurance increases the risk profile, but that's exactly the situation that is created by the poor recognition of hedges. If banks are asked to choose between paying for insurance and being considered more risky or not paying for insurance, they will choose the latter if it means lower capital requirements," says ISDA's Dionysopoulos.

Accounting alignment

Closing the gap between accounting and regulatory CVA calculations was one of the Basel Committee's three principle objectives in 2015, but many market participants believe this is an area where further work is still needed. While CVA capital is a regulatory measure, it is designed to capitalise losses in accounting CVA, so a lack of alignment upon implementation would represent a significant issue.

The industry's recommendations to the Basel Committee include the adjustment of certain parameters, mainly relating to the margin period of risk and loss given default, to ensure greater convergence between regulatory and accounting CVA. As non-cleared margin rules are phased in, counterparty risk should fall, which should lead to less CVA risk and therefore less capital. But without greater alignment, that risk mitigation won't be recognised in the capital framework.

"The reality is that because of the lack of alignment with accounting CVA, there are a number of relatively low-risk counterparties, some of which may be fully collateralised, for which we would still be required to hold a significant amount of CVA capital. It is therefore really important that this consistency is addressed to avoid such situations," says a senior regulatory policy official at a US bank.

Following the QIS on the final framework and subsequent industry recommendations, it should soon become clear whether the Basel Committee intends to consult further and make the targeted revisions that have been suggested. In the meantime, banks will need to continue their preparations for the revised framework as part of Basel III, making a choice between SA-CVA and BA-CVA and preparing to implement the standards as drafted.

Given the Basel Committee has set a deadline of January 2022 for the implementation of the reforms, there is also an onus on national legislators to complete the transposition of the standards into their own rulebooks so banks know what is expected of them. Many market participants therefore have two clear priorities when it comes to CVA. They are waiting for feedback from the Basel Committee and its market risk group, while also remaining focused on ensuring consistent transposition into regional and national laws.

For its part, the European Banking Authority (EBA) has been working on an impact assessment of the various components of Basel III, and will deliver its advice on CVA and the FRTB to the European Commission later this year. In a preliminary report presented by the EBA in early July, CVA was identified as one of the key drivers of capital for European banks as a result of Basel III implementation. It remains to be seen whether European legislators will retain the exemption from CVA capital for corporates, sovereigns and pension funds.

Market participants have made the best case for weaknesses in the framework to be addressed in the name of preserving stability and to avoid putting undue strain on banks and clients. Ultimately, however, the industry will need to be ready for every outcome. The Basel Committee might choose to make some targeted revisions; it might consult further before considering any changes; or it might decide that it is now too late in the day to reopen the rulebook.

"We are prepared for a range of outcomes on CVA, but if we take a pragmatic and targeted approach, then it is really most important that the hedging efficiency is addressed to bring the framework into line with the reality of our economic hedging. We will need clarity on this in the coming months so we can implement accordingly," says Standard Chartered's Ramambason. IQ

10 Questions with...

Thijs Aaten

Thijs Aaten, an ISDA board member and chief finance and risk officer at APG Asset Management Asia, talks about the challenges associated with benchmark reform and the importance of close-out netting

IQ: What does your role at APG Asset Management entail?

Thijs Aaten (TA): I recently took on a new job at APG. I moved to Hong Kong, and I am now a board member of APG Asset Management Asia. At APG Asia, we manage part of the assets for our pension fund clients. At this moment, my focus within the board is on risk management, compliance and finance.

IQ: What's the best part of the job?

TA: What I like most is the opportunity to grow our presence in Asia. We are setting up teams to invest in new asset categories for the Asian office. We see opportunities to start investing in Chinese fixed income, and we are growing the teams that invest in private real estate, infrastructure and private equity. Of course, this rapid growth needs to be managed carefully with a focus on keeping the office agile and entrepreneurial, while at the same time making sure all formal requirements are taken care of.

IQ: How does APG use derivatives?

TA: We manage the entire balance sheet of our pension fund clients. These pension funds hedge the interest rate risk of their liabilities to reduce the volatility of their solvency ratio, and hedge foreign currency risk back to euros, the currency of the liabilities. These are massive directional positions. The derivatives are marked-to-market on a daily basis, and collateral is exchanged based on any daily fluctuations.

So, cash and collateral management is very important to properly manage these derivatives positions. I've seen daily collateral swings in volatile market circumstances that were billions of euros in size.

IQ: You moved to Hong Kong with APG last year. How have you found the transition from Europe?

TA: Of course, there are moments when you think 'what have I done? I should have stayed in the Netherlands'. Especially at moments when you need to find a mailbox and you don't know what they look like. Or when you've stood in line for two hours to get a Hong Kong drivers' licence and you find out there is a spelling error in your proof of address and it cannot be used. But Hong Kong is a fascinating place to live in. Now we've settled in and know our way around, I feel fortunate to have this opportunity.

IQ: What are the biggest issues facing the derivatives industry in 2019?

TA: It feels as if there is no end to new regulations that are being applied to the derivatives markets. This year, we are working on the initial margin requirements as our clients are now coming into scope. We are also starting preparations to move to new risk-free rates (RFRs). It has been like this since the global financial crisis. It would be great if we can start focusing on markets again, instead of doing our best to keep up with regulations and meet regulatory deadlines.

IQ: Benchmark reform is a priority for the coming years. What needs to happen to ensure alternative RFRs are adopted?

TA: The adoption of RFRs is not my worry. That is something that will happen, either because the old rates will cease to exist or get banned by regulators, or simply because the market likes the new rates better. I'm more worried about how we will get to this new world. It looks like different jurisdictions are taking different approaches. Some seem to prefer a 'big bang', which involves doing away with the different interbank offered rates (IBORs) as soon as possible; others will let IBORs coexist alongside the new rates.

The problem with a big bang approach is how to get all participants educated and prepared in time. Just think about retail mortgages linked to IBORs. But for our firm, given the large directional positions in derivatives that our clients have, the main worry is how to mitigate large value transfers that might occur if the new fallback rates fix structurally lower or higher compared to the old IBOR rates.

"The adoption of RFRs is not my worry. That is something that will happen, either because the old rates will cease to exist or get banned by regulators, or simply because the market likes the new rates better. I'm more worried about how we will get to this new world"

IQ: You've been on the ISDA board since 2017 – how have you found it?

TA: It has been a great experience. We've seen some difficult dossiers over these two years – from narrowly tailored credit events to the alternative RFRs. I'm happy to be in the position to bring issues to the table from a pension fund perspective. Having large directional positions brings a different perspective, and it's good these are taken into account. It validates ISDA's claim that it is the voice of the market.

IQ: In a recent ISDA survey of Asia's derivatives markets, respondents highlighted legal certainty on close-out netting as a key issue. Why is this so important?

TA: In many jurisdictions, close-out netting is almost taken for granted. However, in a default, it is of the utmost importance to be able to close out your positions by netting them down. In a lot of emerging market jurisdictions, being able to net and consequently close out your positions is not self-evident, so it seems logical that close-out netting is identified as a key issue in Asia's derivatives markets. In China – the third largest fixed income market in the world – there is no legal certainty on close-out netting.

IQ: What was your very first job?

TA: I started out as an internal auditor at the head office in a large Dutch hotel chain. I visited the hotels to check their accounting and internal controls. No derivatives were involved whatsoever. However, it did teach me how data and money flows through the organisation and ultimately ends up in the general ledger. I'm still benefiting today from the things I learned in that job.

IQ: What do you do when you're not working?

TA: As we discussed earlier, my family is new in the Asia-Pacific region. Therefore, we try to see as much of the region as we can. So most of our free time is spent travelling around and experiencing the beauty of the countries that surround us. 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

- Towards a shared golden source of trade data: 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

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

OFFICE LOCATIONS

NEW YORK

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

LONDON

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

HONG KONG

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

WASHINGTON

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

BRUSSELS

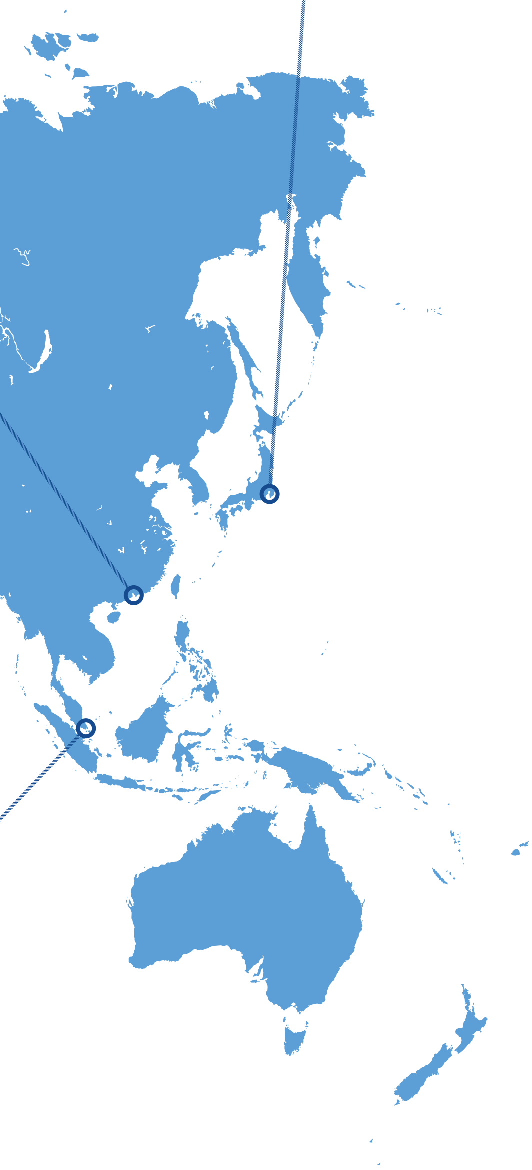
2nd floor, Square de Meeûs 5/6
1000 Brussels
Belgium
Phone: 32 (0) 2 808 8013
isdaeurope@isda.org

SINGAPORE

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

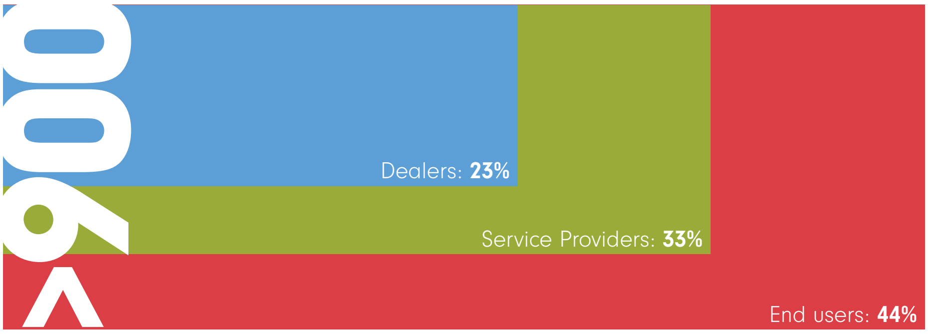
MEMBERSHIP INFORMATION

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



ISDA has more than 900 member institutions from 71 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, clearing houses and repositories, as well as law firms, accounting firms and other service providers.

MEMBERSHIP BREAKDOWN

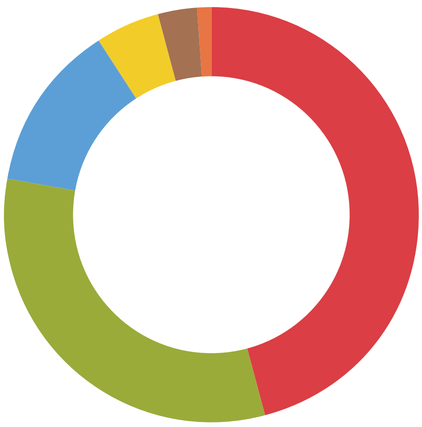


TYPES OF MEMBERS

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

GEOGRAPHIC COLLATERALISATION

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



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

BOARD OF DIRECTORS

OFFICERS

Eric Litvack, Chairman
Managing Director, Head of Regulatory Strategy
Société Générale Global Banking and Investor Solutions

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

Yutaka Amagi
Managing Director, Head of Global Markets Planning Division
MUFG Bank, Ltd.

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

Biswarup Chatterjee
Managing Director
Citigroup Global Markets

John Dabbs
Global Head of Prime Derivatives Services
Credit Suisse

Kieran Higgins
Head of Trading & Flow Sales
Natwest Markets

Sian Hurrell
Head of FICC Europe; Global Head of FX
RBC Capital Markets

Dixit Joshi
Group Treasurer
Deutsche Bank AG

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

Daniel Maguire
Chief Executive Officer
LCH Group

Jason Manske
Senior Managing Director, Chief Hedging Officer and Head of Derivatives and Liquid Markets
MetLife

ISDA EXECUTIVES

OFFICE OF THE CEO

Scott O'Malia
Chief Executive Officer

Steven Kennedy
Global Head of Public Policy

Katherine Tew Darras
General Counsel

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

Amy Caruso
Head of Collateral Initiatives

Roger Cogan
Head, European Public Policy

Huzefa Deesawala
Chief Financial Officer

Panayiotis Dionysopoulos
Head of Capital

Karel Engelen
Senior Director and Co-head of Data, Reporting and FpML

Benoit Gourisse
Senior Director, European Public Policy

Jing Gu
Senior Counsel

Erik Tim Mueller
Chief Executive Officer
Eurex Clearing AG

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

Shigeru Nonomura
Managing Director, Co-Head of Rates Trading, Global Markets Japan
Nomura Securities Co., Ltd.

Max Nuttall
Head of Global Structured Products & IST Strategy
BP plc

Scott O'Malia
Chief Executive Officer
ISDA

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

Duncan Rodgers
Managing Director, Global Head of ALEM, UK Head of GALM
UBS AG

Marc Seidner
Managing Director, Chief Investment Officer
PIMCO

Michael Stanley
Co-head of Global Rates
Bank of America Merrill Lynch

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

Emmanuel Vercoustre
Deputy CEO & CFO
AXA Bank Europe

Jacques Vigner
Head of Strategy, Conduct, Risk and Financial Resources, Global Markets and Corporate and Institutional Banking (CIB)
BNP Paribas

Tom Wipf
Vice Chairman of Institutional Securities
Morgan Stanley

Rana Yared
Managing Director, Principal Strategic Investments, Securities Division
Goldman Sachs & Co.

Marisa Irurre Bauer
Head of Conferences

Ulrich Karl
Head of Clearing Services

Olivier Miart
Head of Analytics

Dillon Miller
Chief Technology Officer

Tomoko Morita
Senior Director and Head of Tokyo Office

Mark New
Senior Counsel, Americas

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

Rick Sandilands
Senior Counsel, Europe

Nick Sawyer
Head of Communications & Strategy

Colleen Tabala
Global Head of Human Resources

Peter Werner
Senior Counsel

Chris Young
Head of US Public Policy

Liz Zazzera
Head of Membership

ISDA Conferences

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

Education has been part of ISDA's mission since the Association's inception. ISDA's highly qualified instructors continue to educate the industry through conferences held globally. Topics include legal and documentation, collateral, trading, margin, reporting, risk and capital management, regulation and other related issues. Follow us on Twitter ***@ISDAConferences*** *to be the first to hear about new conference offerings.*

2019 ISDA REGIONAL CONFERENCES

LONDON – SEPT 19 | **NEW YORK** – SEPT 26 | **SYDNEY** – OCT 23 | **TOKYO** – OCT 25

REGISTRATION OPEN!

Visit isda.org/events

For complete up-to-date conference listings

ISDA Technology Forum

LONDON – Nov 6

Artificial Intelligence, digital tokens, automated contracts and advancements in technology are everywhere. At ISDA's 3rd Annual Tech Forum, we will explore how new technologies are and could affect derivatives markets through lively panel discussions, insightful keynote remarks and innovative interactive sessions.

Ready to get involved?

Sponsorship and exhibition opportunities are available for many upcoming events.

For more information contact: **Rob Saunders**, ISDA: +44 (0) 20 3808 9727 | rsaunders@isda.org

ISDA® Safe, Efficient Markets **ON DEMAND**

ISDA's streaming conference service playing on your schedule

*

"We will never have
the exact same rules around
the globe. We should rather
strive to minimise the frequency
and impact of duplicative
rules while also demanding
comparability"

Dawn Stump, commissioner, CFTC