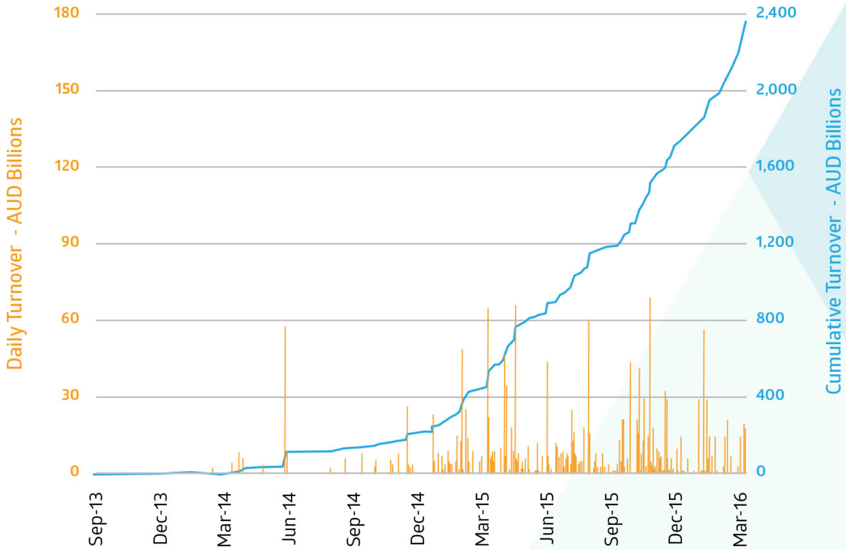
The centre for managing Australian risk

Over $2 trillion notional value cleared



ASX

ASX OTC Clearing

Efficient risk management

Skin in the game

Optimised portfolio margining

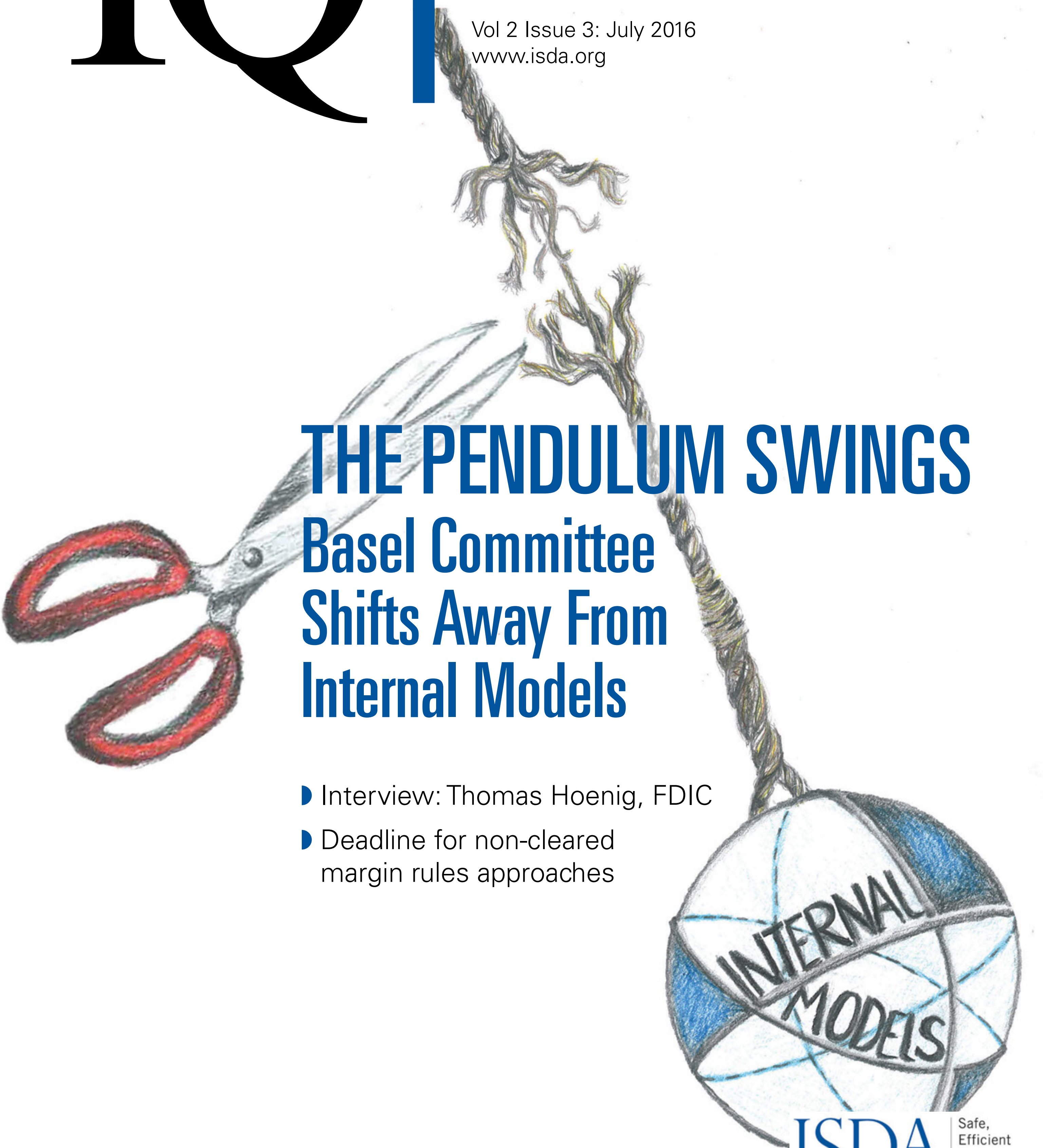
Visit asx.com.au

Follow us @ASX

ASX

IQ
ISDA®
Quarterly

Vol 2 Issue 3: July 2016
www.isda.org



THE PENDULUM SWINGS

Basel Committee Shifts Away From Internal Models

- Interview: Thomas Hoenig, FDIC
- Deadline for non-cleared margin rules approaches

ISDA® Safe, Efficient Markets

The Pendulum Swings

IT SEEMS HARD to imagine, but the first global bank capital rules came into effect less than 30 years ago, back in 1988. What seems even more incredible, however, is that those rules – the Basel Committee on Banking Supervision's *International Convergence of Capital Measurement and Capital Standards* – ran to only about 30 pages.

Today, the Basel III framework spelling out new capital and liquidity standards is significantly longer. It is also considerably more complex. As a result, there is literally no one who has a clear idea what the aggregate impact of each of these rules will be. So far, each new measure has been looked at in isolation, without considering how it will interact with other parts of the capital framework.

That's why ISDA believes an overall impact study that comprehensively analyses the full set of capital, liquidity and leverage rules is essential. Such a study would enable regulators and policy-makers to better calibrate the new rules at an appropriate level.

It's worth noting that despite the complexity of the new Basel framework, the rules are significantly less risk sensitive and may actually deter improvements in risk management. Consider, for example, the regulatory shift away from internal models. These models enable banks to identify and appropriately measure risk across various dimensions. The move away from using them has occurred in several areas – credit risk-weighted assets, operational risk and credit valuation adjustment – and is also reflected in the imposition of capital floors.

Why is this important? For one, standardised models are relatively blunt, meaning the required capital charge for holding a particular asset might not adequately reflect its risk. This can lead to poor decision-making: a bank might choose to pull back from low-risk assets, counterparties or businesses where capital costs are relatively high. Conversely, it might opt to invest in higher-risk assets that appear attractive from a capital standpoint.

We believe, as a general point, that capital levels should reflect risk as closely as possible. A less risk-sensitive capital framework leads to the possibility of a misallocation of capital and an increase in systemic risk by encouraging herding behaviour in the market.

Yes, internal risk-based models, like standard models, have their weaknesses. And yes, ISDA supports the intention of the capital reforms to strengthen the resilience of the banking system.

But like many market participants and others concerned about the health of the global economy and the financial markets, we also wonder – and worry – if the pendulum has now swung too far, and if we can restore it to equilibrium. ■

Steven Kennedy
Global Head of Public Policy
ISDA

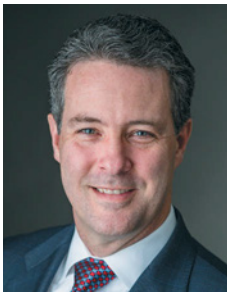
ISDA. Safe, Efficient Markets

Published for ISDA | International Swaps and Derivatives Association | www.isda.org
NEW YORK | WASHINGTON | LONDON | BRUSSELS | HONG KONG | SINGAPORE | TOKYO

Nick Sawyer, Head of Communications & Strategy, nsawyer@isda.org
Steven Kennedy, Global Head of Public Policy, skennedy@isda.org

Published by Naylor, Inc., 5950 NW 1st Place, Gainesville, FL 32607, 800-369-6220, www.naylor.com. Publisher Heidi Boe, Sales Manager David Glass, Marketing Manager Edward Ottenga, Editor Jennifer Lipner, Design Barry Senyk, Advertising Reps George Baldwin, Janet Frank, Shaun Greyling, Debbie Phillips.

New Complexity for Margin Rules



BY THE TIME this issue of *IQ: ISDA Quarterly* hits the desk, it'll be less than two months until new margining requirements for non-cleared derivatives come into force for phase-one entities on September 1. At least, it will be for those banks in the US, Japan, Canada and some other jurisdictions. European phase-one banks now have until some time in mid-2017, following reports on June 9 that European authorities will not be able to finish European rules in time. It was still unclear what impact this will have as *IQ: ISDA Quarterly* went to press, but – with no other jurisdiction so far changing its start date – it seems likely it will add to the cross-border complexity of the rules.

At the highest level, the fracturing of a previously harmonised implementation timeline will create new documentation and operational challenges, as counterparties will need to factor in the status and location of their counterparties. This will be complex for the largest banks in phase one to manage, but the biggest impact could occur in March 2017, when variation margin rules for a wider universe of firms is scheduled to come into effect.

ISDA and its members are looking closely at the implications and are considering how to respond. But you can be sure ISDA will flag the challenges that have been created by the splintering of the implementation schedule, and will work to help the market comply with the rules.

The split in the timetable will not slow down implementation efforts, however. ISDA has been working with the industry for the past three years to make sure the margining regime can be introduced smoothly and without disrupting the market. But what started as a marathon is ending with a mad dash to the line – largely because of the lateness of final rules from national authorities. The US Commodity Futures Trading Commission, for instance, published its final rules on December 16, 2015, and followed up with its final cross-border margin requirements on May 24.

Despite the lack of certainty in the rules until late on, a huge amount has been accomplished by the industry. For one thing, ISDA has developed a standard initial margin model, or ISDA SIMM, that all participants will be able to use to calculate their initial margin requirements. Achieving a balance between risk sensitivity and simplicity has been challenging. Ensuring the calculation could be done quickly enough to meet multiple daily pricing requests and enabling as many firms as possible to adopt the model were both key criteria. Ultimately, the working group settled on a simplified model based on the Basel Committee on Banking Supervision's sensitivity based approach. To help ensure consistency in implementation, various parameters (including risk weights and correlation) will be defined centrally by ISDA.

This kind of thing has never been attempted before for non-cleared derivatives, and it means no one will be competing on the amount of margin they ask their clients to post. Use of a common model also creates transparency and will help resolve disputes over initial margin calls.

Equally importantly, we've established a transparent governance structure to manage the evolution of the ISDA SIMM over time, ensuring it continues to meet regulatory requirements and is subject to regular monitoring and back-testing.

Another big step has been the development of revised margin documentation that is compliant with the rules. The first variation margin credit support document was published in April, and we're preparing a protocol to allow market participants to make changes to their outstanding agreements as efficiently as possible. The lack of harmonisation that now exists in the implementation schedule complicates this initiative, particularly as final European rules are now not expected until the end of this year. But ISDA will work with members to ensure they are able to comply with the rules in each jurisdiction.

> At the highest level, the fracturing of a previously harmonised implementation timeline will create new documentation and operational challenges

While ISDA and the industry have reached numerous milestones in their preparations, the last stretch will inevitably be tough. The fracturing of the implementation schedule creates unexpected operational complexity, but the short amount of time between finalisation of national rules and the scheduled start date also hasn't helped. In the US, for instance, firms need pre-approval from regulators to use the model. Any delays in that process would leave firms with the choice of using a highly conservative look-up table set by regulators, or reining back trading activity come September 1.

A final point to remember: September marks the end of just the first phase of implementation. Once that deadline is over, the next big date will be March 2017, when all other entities covered by the rules will be required to meet variation margin requirements – capturing a much, much larger universe of firms in a 'big bang' implementation. Although it is currently unclear what impact the European delay will have on this deadline, ISDA will continue to prioritise the margin initiative to help ensure members are in the best position possible. ■

Scott O'Malia
Chief Executive Officer
ISDA

CONTENTS

VOL 2 ISSUE 3: JULY 2016

COVER STORIES: CAPITAL

11 THE SWING AWAY FROM MODELS

12 INTERNAL MODEL PUSHBACK

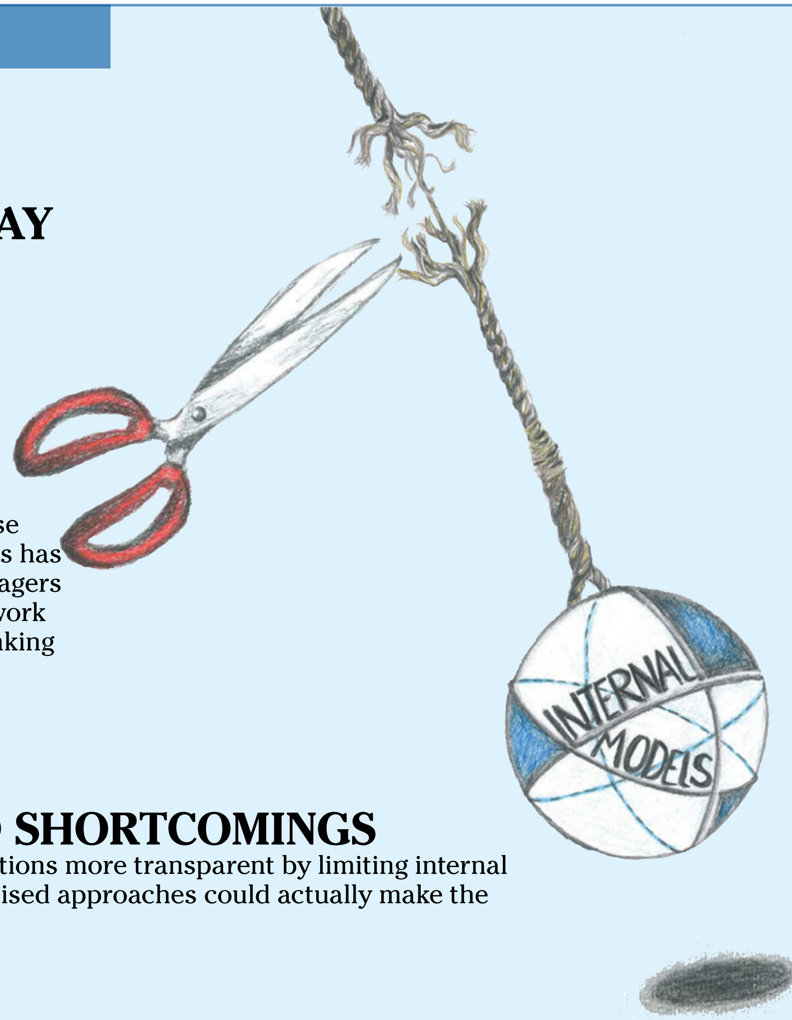
The Basel Committee's efforts to increase the comparability of risk-weighted assets has gained momentum in 2016, but risk managers warn that simplifying the capital framework could have a negative impact on the banking sector

15 STANDARDISED SHORTCOMINGS

Regulators hope to make capital calculations more transparent by limiting internal modelling, but the use of more standardised approaches could actually make the process even harder to decipher

17 MARKET AT RISK

ISDA-led analysis suggests the FRTB could cause a capital hike of as much as 140%, and participants believe a failure to tackle concerns over internal model approval may force them to exit certain businesses



REGULARS

2 FOREWORD

3 LETTER FROM THE CEO

6 NEWS

41 ISDA CONFERENCES

42 ADVERTISERS

FEATURE INTERVIEW

20 THOMAS HOENIG, FDIC: "THEY NEED MORE CAPITAL"

The concept of risk sensitivity has been central to regulatory capital requirements since the rollout of Basel II, but Thomas Hoenig, vice-chairman of the FDIC, says risk-based capital measures have flaws. The primary focus should be on the leverage ratio, he tells *IQ: ISDA Quarterly* – and he believes bank capital levels need to be stronger

24 10 QUESTIONS WITH: JONATHAN HUNTER, RBC CAPITAL MARKETS

Jonathan Hunter, global head of fixed income and currencies at RBC Capital Markets, talks about the changes required to comply with forthcoming margin rules, the need for standardisation, and the role of technology in the derivatives market

26 CROSS-BORDER CHALLENGES

The introduction of margining requirements for non-cleared derivatives is the last of the major G-20 derivatives reforms to be introduced, but cross-border issues are proving challenging

30 REFORMING REPORTING

Dual-sided reporting regimes adopted in some jurisdictions have proven costly and over-complex. Regulators should adopt a single-entity approach to improve access to data and allow for global harmonisation of reporting standards, ISDA and other industry associations argue

34 LIQUIDITY SPLIT PERSISTS

Nearly three years on from the introduction of US SEF rules, the euro interest rate swaps market continues to be overwhelmingly traded between European counterparties in Europe, with little participation by US dealers

O'Malia Testifies on Capital and Margin

ISDA chief executive Scott O'Malia has called on regulators to conduct a cumulative impact assessment on the various strands of prudential and derivatives market reform to determine the overall effect on the banking sector and real economy.

Testifying in front of the US House of Representatives Committee on Agriculture's Subcommittee on Commodity Exchanges, Energy, and Credit on April 28, O'Malia warned there is little understanding of the long-term effects of the changes still being made to bank capital, liquidity and leverage requirements through Basel III.

"When it comes to the health of the global financial system and economy, I think the old tailor's saying holds true – measure twice, cut once," he said. "At the moment, we are cutting our cloth in the dark."

While many aspects of the rules have been finalised and implemented, key elements of the Basel reform agenda are still evolving and have yet to be fully rolled out. This includes the Fundamental Review of the Trading Book (FRTB), the net stable funding ratio (NSFR) and the leverage ratio.

"We are concerned that the cumulative effect of the different parts of bank capital reform is still unknown, and it is our belief that regulators should undertake a cumulative assessment post haste," added O'Malia.

Banks now hold more and better quality capital than ever before, O'Malia said, pointing to the fact that the largest US banks currently hold double the amount of common equity compared with 2008. Given these increases in capital, the Group-of-20 (G-20) has recently stated that further refinements to capital rules should not result in a significant rise in capital across the banking sector.

Despite this, ISDA analysis suggests several new measures will each result in a rise in capital, on top of the increases that have already occurred, said O'Malia.

For example, an ISDA study on the impact of the final FRTB rules shows that market risk capital will increase by at least 50% compared with current levels. However, this assumes all banks will receive internal model approval for

Scott O'Malia, ISDA

all their trading desks. If banks do not receive approval for any of their internal models, market risk capital would increase by 2.4 times. ISDA believes the impact will ultimately be somewhere in between. The NSFR and the shift away from internal models are also likely to increase costs for banks, O'Malia said.

These increases may ultimately have an effect on certain business lines that are important for end-user financing and hedging. As an example, O'Malia pointed to the impact of the leverage ratio on client clearing. As it stands, the rule fails to recognise the exposure-reducing effect of initial margin posted by the customer. This has proved detrimental to the economics of client clearing and is in conflict with the G-20 goal to encourage the central clearing of derivatives, he argued.

"Asking banks to hold ever higher amounts of capital could strangle bank lending, their ability to underwrite debt and equity, and their willingness to provide hedging services to end users. An economy requires capital and investment to thrive. Choke off the supply of financing, and economic growth will be put at risk," added O'Malia in his written statement.

The impact of new margining requirements on non-cleared derivatives was also raised. The US rules, based on a framework developed by the Basel Committee and the International Organization of Securities Commissions, will require the largest banks to exchange initial and variation margin on their non-cleared trades from September. All other entities covered by the US rules will be subject to variation margin requirements from March 2017, with initial-margin obligations phased in over a four-year period.

"These rules will have a significant cost impact on non-cleared products," O'Malia said. "According to analysis published by the Commodity Futures Trading Commission (CFTC), the industry may have to set aside over $300 billion in initial margin to meet the requirements. ISDA has worked closely with the market at a global level to prepare for implementation. I am proud to say ISDA and its members have accomplished a great deal."

Chief among these accomplishments is the development a standard initial margining model called the ISDA SIMM, which will provide all participants with a common methodology for calculating the initial margin amounts that need to be exchanged. That model is complete from a design perspective, but regulators will need to move quickly to determine whether it is appropriate for use before the September start date.

"Regulators need to send a clear signal that the ISDA SIMM is fit for purpose and banks can confidently begin to apply this model before the deadline," O'Malia said. ■

Read the testimony in full here: http://isda.link/omaliatestimony.

See pages 26-29 for an in-depth article on margin.

ISDA AGM: Industry Turns to Market Structure Impact

With the last of the Group-of-20 (G-20) derivatives reforms set for implementation in some jurisdictions from September, the focus of regulators and industry participants is now shifting from regulatory development to assessing impact and refining calibration, according to ISDA chief executive Scott O'Malia and chairman Eric Litvack, speaking at ISDA's 31st annual general meeting (AGM) in Tokyo in April.

"The derivatives markets today are clearly very different to the derivatives markets before the financial crisis. Trade reporting is now the norm. Clearing is increasingly common, and electronic trading is gaining momentum. There are a host of infrastructures that must be integrated into the lifecycle of a trade, and there are now more links in the chain between buyer and seller. In short, the changes in market structure driven by regulations have been profound, and the evolution is still ongoing," said O'Malia, opening the AGM on April 13.

The changes are posing a number of implementation challenges for derivatives users – and ISDA is responding by providing a variety of infrastructure, legal and technology solutions, O'Malia said. The margining rules for non-cleared derivatives are a case in point. The largest banks will be required to post initial and variation margin on their non-cleared transactions from September, while variation margin requirements will come into force for all covered entities from March 2017. The start date in Europe will be later, following an announcement by the European Commission on June 9 that European rules would not be finalised in time for a September launch.

A centrepiece of ISDA's efforts to help the industry prepare for implementation is the development of a standard initial margin model, known as the ISDA SIMM, which will be available for firms to use to calculate how much initial margin needs to be exchanged. The association is also preparing for the necessary revisions to ISDA credit support documentation in each jurisdiction, along with a protocol to ensure the changes to outstanding agreements can be made as efficiently as possible.

"The effort will deliver a comprehensive margining solution, which includes a consistent margin methodology, a transparent governance framework, and the necessary legal documentation. The various strands of this initiative are now close to fruition," O'Malia said.

Eric Litvack, ISDA

Outside the non-cleared margining space, ISDA's efforts have focused on ensuring clearing, trading and reporting mandates can be implemented efficiently, and the rules are as closely harmonised as possible across borders. To this end, O'Malia flagged ISDA's efforts to develop a globally consistent derivatives product identifier through an industry Symbology project, work to highlight similarities between US and European Union trading-platform rules, and research on central counterparty (CCP) resilience and recovery.

"Attention is now turning to the important issue of CCP resolution, and ISDA has been very active in contributing ideas to this debate. Among the key issues is understanding how resolution and recovery differ in terms of tools, resources and powers, and grasping where recovery ends and resolution begins," said O'Malia.

As well as implementation issues, derivatives users are also attempting to assess the impact of the new rules, and determine whether and how the changes will affect derivatives trading and market liquidity. The challenge is that key elements of the capital reform agenda – including a new market risk capital framework, the net stable funding ratio (NSFR) and the leverage ratio – have not been fully implemented.

The G-20, Financial Stability Board and Basel Committee on Banking Supervision have all recently stated that additional changes to Basel III should be made without significantly increasing capital across the banking system. But Litvack warned that no one currently knows what the overall impact of the rules will be.

"As it stands, an overall impact study hasn't been conducted on the full set of capital, liquidity and leverage rules, but studies of individual elements of the framework that haven't yet been implemented present some cause for concern," he said, in his opening remarks on day two of the AGM. As an example, he pointed to ISDA-led impact studies conducted on the new market risk rules and the NSFR, which both indicated that banks will have to hold higher capital.

Litvack also pointed to the regulatory shift away from internal capital models towards less risk-sensitive measures, and warned this could lead to perverse outcomes.

"The use of non-risk-based measures could mean the required capital for a particular asset doesn't adequately reflect its risk. Reducing the sensitivity to risk incentivises poor decision-making. A bank might choose to stop investing in low-risk assets where capital costs are relatively high. Or, vice versa, it might opt to invest in higher-risk assets that appear attractive from a capital standpoint," he said.

These types of observations do not mean ISDA is pushing back against the rules, Litvack stressed. On the contrary, they are intended to ensure the changes can occur in a way that does not disrupt markets.

"Far from resisting change, ISDA has played an integral role in getting down to the nuts and bolts and making sure the requirements can actually be implemented safely and efficiently," he said. ■

Regulators Should Look Beyond Capital, says JFSA Chief

Regulators should be wary of placing too much faith in increasing capital buffers as a sole means of securing stability in the banking sector, according to Japanese Financial Services Agency (JFSA) commissioner Nobuchika Mori.

Speaking at ISDA's 31st annual general meeting in Tokyo on April 13, Mori revealed reservations about current trends in regulatory oversight, which focus on prescriptive, simplified and increasingly strong capital measures.

Nobuchika Mori, JFSA

"Today, some proclaim that the more the regulators distance themselves from Wall Street, the better they can police bankers, and a few even argue that dialogue with bankers entails the risks of regulatory capture," said Mori.

He went on to list a variety of regulatory changes designed to strengthen the defences of banks in the aftermath of the 2008 crisis – the total capital ratio, the leverage ratio, liquidity coverage and net stable funding ratios, capital conservation and countercyclical buffers, surcharges to both capital and leverage for systemically important institutions, and the total loss absorbing capacity ratio.

"We had better think carefully whether thick walls are enough to attain our dual goal of financial stability and growth. The Japanese heavy battleships *Yamato* and *Musashi* had the thickest walls, but we know that they were not resilient against air power. Instead of blindly trusting the thickness of the walls, we need to assess and strengthen the entire framework of prudential regulatory and supervisory policy," he explained.

Mori pointed to the current focus on a static, point-in-time approach by prudential regulators, and said supervisors should be wary when planning on changes that would affect bank balance sheets without a prior analysis of the long-term impact – although he acknowledged this isn't easy.

"Doctors do not prescribe medicine – particularly strong medicine – without assessing its effects and side-effects on the overall health of the patient. But, in the case of prudential policy, it is not easy to assess the effects and side-effects on the overall functioning of the financial system," he said.

> "We should make sure that the financial system effectively functions to support business activities and the overall economy"
>
> *— Nobuchika Mori, JFSA*

As an alternative, the JFSA is planning to adopt a more dynamic approach to prudential oversight, Mori said. Rather than focusing on bank capital, leverage and liquidity levels alone, this approach would also consider the relationship between risk, return and capital, the interaction between the bank and the real economy, and the link between the bank and its customers. Mori stressed the importance of a continuous, open dialogue between regulators and banks.

"Our aim should not be limited to the minimisation of the risk of failures of individual banks. We should make sure that the financial system effectively functions to support business activities and the overall economy, even in the conditions of market turmoil or economic downturn," he said.

Mori's remarks were followed on April 14 by a speech from Masayoshi Amamiya, executive director at the Bank of Japan. Amamiya stressed the importance of central banks in complementing the actions of market participants and prudential regulators to create a robust financial system.

"Financial markets play a central role in the implementation of monetary policies by central banks and also carry crucial information regarding the views of market participants on economic and financial conditions. Therefore, central banks also have a strong incentive to enhance the robustness of financial markets," he said.

Amamiya also highlighted the role of the private sector in reducing risk and uncertainty in financial markets, and in developing robust market conventions. "It is necessary that the public and private sectors share the same objective of developing sound financial markets and work together toward that objective. For example, there are cases where market participants cooperate with the public sector in the process of developing and implementing regulations or recommendations."

As an examples, he flagged the importance of the ISDA SIMM, a standard initial margin model than can be used by counterparties to calculate required initial margin on non-cleared derivatives trades. Amamiya described this as contributing "significantly to greater standardisation and improved efficiency of risk management". The implementation of non-cleared margining begins on September 1 for the largest banks – although European regulators announced on June 9 that they would delay the start date in Europe until mid-2017. ■

Masayoshi Amamiya, Bank of Japan

ISDA Launches Resolution Stay Jurisdictional Modular Protocol

ISDA launched a new protocol in May that enables market participants to comply with new regulations aimed at ensuring the cross-border enforceability of stays on contractual termination rights.

Called the ISDA Resolution Stay Jurisdictional Modular Protocol, it can be used by all market participants, and has been designed to provide flexibility to allow adhering parties to choose which jurisdictional 'modules' to opt in to.

The protocol was developed in response to regulatory changes. Under a framework established by the Financial Stability Board (FSB), various national regulators are introducing requirements for certain banks in their jurisdiction to obtain consent from their counterparties for statutory stays on early termination rights to apply to financial contracts between those parties, regardless of the governing law of the contract.

These stays are among the powers available to national resolution authorities to resolve failing banks as part of their jurisdiction's special resolution regime. While statutory stays would apply to all contracts with all counterparties governed under the law of that jurisdiction in the event a bank enters into resolution proceedings, there is some uncertainty over whether a stay would be enforceable on a cross-border basis if outstanding trades are governed by overseas law.

"Regulators want to ensure cross-border trades are subject to statutory resolution requirements, and have begun to issue regulations requiring firms to opt in to the resolution regimes of their bank counterparties. This protocol enables market participants to efficiently and flexibly comply with those requirements," says Scott O'Malia, ISDA's chief executive.

> "Regulators want to ensure cross-border trades are subject to statutory resolution requirements, and have begun to issue regulations requiring firms to opt in to the resolution regimes of their bank counterparties. This protocol enables market participants to efficiently and flexibly comply with those requirements"
>
> *— Scott O'Malia, ISDA*

The new protocol follows the launch of the ISDA 2015 Universal Resolution Stay Protocol last November, which enabled adhering parties to opt in to multiple existing and forthcoming special resolution regimes. Twenty-one large global banks voluntarily signed the protocol at launch.

The latest protocol is intended to help the broader market meet the new regulations. The protocol will have separate jurisdictional modules, each designed to closely reflect the requirements in a particular jurisdiction. Each jurisdictional module will contain the operative provisions necessary for adhering parties to comply with applicable requirements.

Together with the protocol, ISDA also launched the UK (PRA Rule) Jurisdictional Module, enabling firms to comply with Prudential Regulation Authority requirements that prohibit certain UK-regulated banks from trading with a counterparty under an agreement not governed by UK or other EU law, unless that counterparty has agreed to be bound by stays on termination rights under UK law. Additional jurisdictional modules will be launched in due course to meet other national regulations.

The protocol was developed by a working group of buy-side and sell-side firms and other trade associations in close cooperation with the FSB and national regulators. ■

Read the protocol here: http://www2.isda.org/functional-areas/protocol-management/open-protocols/.

ISDA Appoints General Counsel

Katherine Tew Darras has been appointed as general counsel at ISDA, where she will lead the association's efforts to develop the legal standards, documentation and opinions necessary to support global cleared and non-cleared derivatives businesses.

Current initiatives include work to develop documentation and protocols to facilitate compliance with new derivatives regulations, such as margin rules for non-cleared derivatives, the expansion of the ISDA Resolution Stay Jurisdictional Modular Protocol, and the ongoing publication of close-out netting, collateral and clearing opinions.

"New regulations and evolving market structures are changing the dynamics of the derivatives market, while new technology is altering how the derivatives business is run. It's vital that ISDA continues to evolve its documentation and standards, and the means of delivering this material, to keep pace with these changes. It's a very exciting time for ISDA, and I'm looking forward to making sure ISDA continues to lead these issues," says Tew Darras.

Tew Darras joined ISDA in November 2001 as assistant general counsel, and was named general counsel for the Americas in 2008. She has served as acting general counsel since January 2016. ■

ISDA Adds CCP and FCM to Board of Directors

ISDA has appointed executives from a central counterparty (CCP) and a futures commission merchant (FCM) to its board of directors.

The new directors are John Dabbs, global head of prime derivatives services at Credit Suisse, and Kim Taylor, president of global operations, technology and risk at CME Group. Taylor will sit on the board for one year, after which the position will be taken by representatives from other CCPs on a revolving, one-year basis. The appointments follow a decision earlier this year to increase the size of the ISDA board and to further broaden its scope and perspective.

> "ISDA has long played a central role in the cleared derivatives markets, by developing the legal documents and opinions necessary to facilitate clearing, publishing research on CCP resilience, recovery and resolution, and providing feedback and insight on clearing-related issues"
>
> *— Scott O'Malia, ISDA*

"John and Kim have a wealth of experience in cleared derivatives, and we're very excited to have them both joining the board. The expertise they bring will help ensure ISDA continues to provide a leadership role in both cleared and non-cleared derivatives," says Eric Litvack, ISDA's chairman.

Alongside the two board appointments, ISDA has established a new CCP committee to complement ISDA's existing work in cleared derivatives. The new committee will provide a forum for ISDA's CCP members to discuss the regulatory, legal, policy, risk and infrastructure issues facing CCPs and cleared derivatives.

"ISDA has long played a central role in the cleared derivatives markets, by developing the legal documents and opinions necessary to facilitate clearing, publishing research on CCP resilience, recovery and resolution, and providing feedback and insight on clearing-related issues. The new board members and the CCP committee will complement and add to these initiatives, with a view to ensuring the entire derivatives market is safe and efficient," says Scott O'Malia, ISDA's chief executive.

According to ISDA research, more than two-thirds of interest rate derivatives notional outstanding is currently cleared, and this proportion is expected to rise as new clearing mandates come into force. ISDA's commitment to cleared and non-cleared derivatives markets was reaffirmed in a revised mission and strategy statement earlier this year, which highlighted ISDA as a strong proponent for a safe, efficient market infrastructure for derivatives trading, clearing and reporting.

ISDA's board also elected 10 other directors on April 14 at its 31st annual general meeting in Tokyo, including three new members. The new directors are John Feeney, head of pricing and conduct coordination at National Australia Bank; Benjamin Jacquard, global head of credit at BNP Paribas; and Hideo Kitano, head of credit trading, head of global markets structuring, Japan, and deputy global head of structured fixed income at Nomura.

Seven other directors were re-elected, including Keith Bailey of Barclays, Biswarup Chatterjee from Citigroup, HSBC's Elie El Hayek, Diane Genova from JP Morgan, Dixit Joshi at Deutsche Bank, Will Roberts from Bank of America Merrill Lynch, and Guy Saidenberg from Goldman Sachs.

A further 10 directors continued on the board, including ISDA's chief executive Scott O'Malia and deputy chief executive George Handjinicolaou. ■

ISDA and TCH Issue CCP Resolution White Paper

ISDA has partnered with The Clearing House to publish a white paper that identifies key issues in the development of a comprehensive resolution framework for systemically important central counterparties (CCPs).

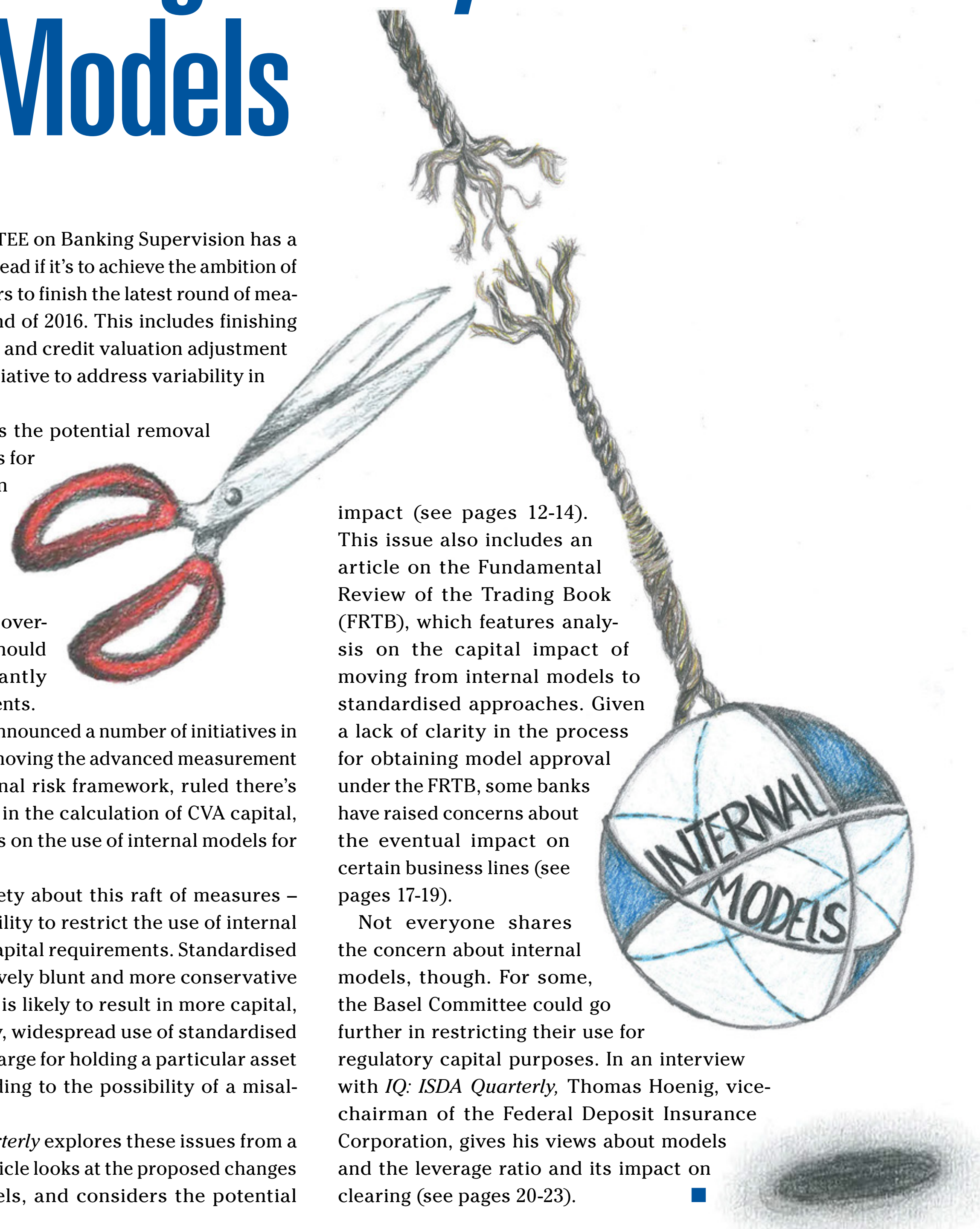
CCPs play an increasingly vital role in the global financial system. According to ISDA estimates, approximately two-thirds of interest rate derivatives notional outstanding is currently cleared, which has led to significantly increased concentrations of risk within CCPs. Earlier this year, the Financial Stability Board announced that it will issue for public consultation standards or guidance for CCP resolution planning, resolution strategies and resolution tools. The ISDA/TCH white paper is intended to inform that effort.

"The primary focus of regulators and market participants should be on CCP resilience and developing robust CCP recovery frameworks. Nonetheless, we can't ignore the issue of CCP resolution and the impact the collapse of a CCP would have on financial stability. It's therefore important this issue is considered in depth," says Scott O'Malia, ISDA's chief executive.

"Having devoted considerable thought and resources to ensuring the resolvability of the world's largest banks, it is now time to take the lessons learned in that process and ensure that CCPs – where much risk has been concentrated by the post-crisis regulatory regime – are equally resolvable," says Greg Baer, president of The Clearing House Association.

The paper, *Considerations for CCP Resolution*, identifies potentially significant resolution tools or approaches for further discussion and evaluation by the official sector and industry. It is available at **http://isda.link/tchisdaccppaper**. ■

The Swing Away from Models



THE BASEL COMMITTEE on Banking Supervision has a busy few months ahead if it's to achieve the ambition of global policy-makers to finish the latest round of measures before the end of 2016. This includes finishing a review of the leverage ratio and credit valuation adjustment (CVA) rules, as well as an initiative to address variability in risk-weighted assets.

The latter project includes the potential removal of internal model approaches for certain risks, and the design and calibration of capital floors. And this, says the Group of Central Bank Governors and Heads of Supervision (the body that oversees the Basel Committee), should be done without significantly increasing capital requirements.

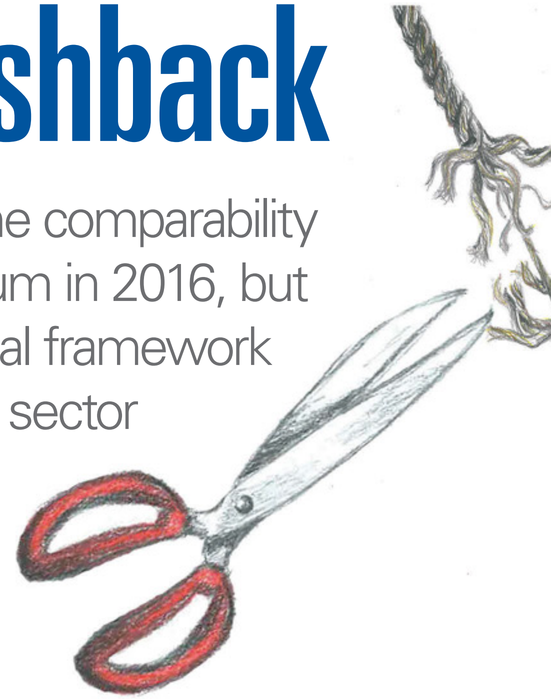
The Basel Committee has announced a number of initiatives in response. It has proposed removing the advanced measurement approach from the operational risk framework, ruled there's no place for internal models in the calculation of CVA capital, and consulted on restrictions on the use of internal models for credit risk-weighted assets.

But there's plenty of anxiety about this raft of measures – and scepticism about the ability to restrict the use of internal models without increasing capital requirements. Standardised approaches tend to be relatively blunt and more conservative than internal models, which is likely to result in more capital, bankers argue. More broadly, widespread use of standardised models means the capital charge for holding a particular asset may not reflect its risk, leading to the possibility of a misallocation of capital.

This issue of *IQ: ISDA Quarterly* explores these issues from a variety of angles. The first article looks at the proposed changes to the use of internal models, and considers the potential impact (see pages 12-14). This issue also includes an article on the Fundamental Review of the Trading Book (FRTB), which features analysis on the capital impact of moving from internal models to standardised approaches. Given a lack of clarity in the process for obtaining model approval under the FRTB, some banks have raised concerns about the eventual impact on certain business lines (see pages 17-19).

Not everyone shares the concern about internal models, though. For some, the Basel Committee could go further in restricting their use for regulatory capital purposes. In an interview with *IQ: ISDA Quarterly,* Thomas Hoenig, vice-chairman of the Federal Deposit Insurance Corporation, gives his views about models and the leverage ratio and its impact on clearing (see pages 20-23). ■

Internal Model Pushback



The Basel Committee's efforts to increase the comparability of risk-weighted assets has gained momentum in 2016, but risk managers warn that simplifying the capital framework could have a negative impact on the banking sector

FOR SOME TIME after the financial crisis, the Basel Committee on Banking Supervision referred loosely to its comprehensive reform package as "strengthening the resilience of the banking sector". It took until late 2010 for Basel III to enter into the lingua franca of regulators. Fast-forward six years, and while Basel III is still deep in its implementation phase, regulators are working on a programme some have already labelled Basel IV.

"One of our main goals this year is to address excessive variability in risk-weighted assets modelled by banks," said William Coen, secretary general of the Basel Committee, in a speech in Sydney on April 5. "Some – not us – have already dubbed these reforms 'Basel IV'. I do not think the title in itself is important, but I note that each moniker bestowed on the global regulatory framework was characterised by a substantial change from the earlier version."

The implication of Coen's rebuttal of the Basel IV label is that addressing variability in risk-weighted assets (RWAs) will not fundamentally reshape the existing regulatory capital framework. But many practitioners believe that assumption to be mistaken, particularly given the various initiatives to reduce the influence of internal models. Such is the central role played by risk-sensitive internal models in calculating capital requirements that bankers argue the changes might not only raise the overall quantum of capital, but could also force the recasting of business models.

Reducing variability in RWAs has been on the regulatory agenda ever since the Basel Committee first commissioned a taskforce on simplicity and comparability in 2012. Senior regulators, including the US Federal Reserve's Daniel Tarullo and the Bank of England's Andy Haldane, have complained that the capital framework has become excessively complex, making it difficult to accurately compare RWAs across institutional and jurisdictional lines.

Internal models have been widely cast as the source of that complexity, but industry participants continue to defend them as a key component of a framework that is predicated on capital levels reflecting risk. If the use of standardised models is enforced more widely, it could drive capital levels beyond what is required by the underlying risk.

"It's understandable that inconsistency in the application of internal models may lead to difficulties in comparison between institutions, but it's not clear that removing internal models altogether is the right way to respond. A very significant proportion of the differences observed reflect real differences in risk profiles," says Eric Litvack, chairman of ISDA.

"Taking a one-size-fits-all approach to risk and capital would come at the cost of having a framework that does not adapt well to specific markets and risks, and, if insufficiently granular, would likely also lead to an increase in capital charges inconsistent with a Basel Committee and Financial Stability Board objective of not significantly increasing capital requirements," he explains.

AT A GLANCE

Regulators have moved further towards limiting the use of internal models for the calculation of regulatory capital.

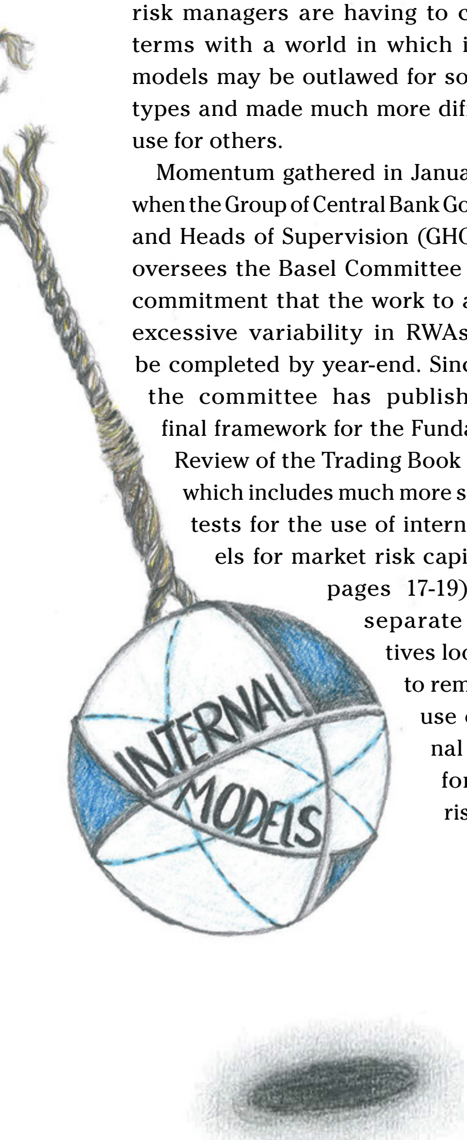
Restrictions have recently been placed on the way banks assess operational and credit risk.

Market participants fear that the broad adoption of a one-size-fits-all standardised model, or capital floors, would leave banks unable to adapt to specific markets and risks and could result in a herd mentality in the industry.

Japanese regulators have raised concerns over ever more prescriptive approaches to supervision.

Model restrictions

Nevertheless, the Basel Committee's direction of travel looks to be set, and risk managers are having to come to terms with a world in which internal models may be outlawed for some risk types and made much more difficult to use for others.



Momentum gathered in January 2016 when the Group of Central Bank Governors and Heads of Supervision (GHOS) that oversees the Basel Committee made a commitment that the work to address excessive variability in RWAs would be completed by year-end. Since then, the committee has published the final framework for the Fundamental Review of the Trading Book (FRTB), which includes much more stringent tests for the use of internal models for market risk capital (see pages 17-19), while separate initiatives look likely to remove the use of internal models for other risk types.

Specifically, proposed revisions to the operational risk capital framework were published on March 4, which centre on a new standardised measurement approach and the removal of the option to use internal models. The model approach was stripped out on the grounds it had become unduly complex, leading to excessive variability in RWAs and inadequate levels of capital being held by some banks.

On March 24, the Basel Committee unveiled further proposals to reduce variation in credit risk-weighted assets, removing the option to use internal ratings-based approaches for certain exposure categories. Crucially, the consultative document also included a decision to eliminate the internal models approach (IMA) for credit valuation adjustment (CVA) risk – a controversial position it had indicated it might adopt, but had not confirmed in its consultation on revisions to the CVA framework in July 2015.

> "The removal of IMA-CVA will still cause capital to rise, increasing costs particularly for non-financial counterparties and sovereigns that are exempt from clearing and margining"
>
> *– Mark Gheerbrant, ISDA*

On the basis that CVA may not be effectively captured by an internal model designed to capitalise market risks in the trading book, and with the implementation of central clearing and margin requirements for non-centrally cleared derivatives set to reduce CVA risk, the committee reasoned that the complexity associated with IMA-CVA was no longer justified. But it's a position that has left the industry with some concerns.

"It is all too easy for regulators to consider CVA a small piece of overall capital requirements that is falling anyway as a result of clearing and margining and conclude that internal models are unnecessary. However, the removal of IMA-CVA will still cause capital to rise, increasing costs particularly for non-financial counterparties and sovereigns that are exempt from clearing and margining," says Mark Gheerbrant, head of risk and capital at ISDA.

It was not just the CVA decision itself that caught the industry off-guard, but also the timing. The Basel Committee had only recently launched a second quantitative impact study (QIS) on the CVA framework, and banks were still submitting data when the decision to remove the IMA was revealed. That now leaves banks with just two options for CVA – the standardised approach and the basic approach.

Some have concluded that political pressure from the GHOS and above may have contributed to the sudden decision to remove a key plank of the framework in the middle of the QIS. Participants hope that with the IMA now excluded, regulators will focus on the calibration of the standardised approach to CVA.

"Despite the removal of the IMA, we have still been asked to submit the corresponding data for the QIS, so I am hopeful this means the Basel Committee will use it to calibrate the standardised approach to a more appropriate level. If they can address the outstanding issues, then we would be content to use the standardised approach for CVA as an alternative to an internal model," says Debbie Toennies, head of regulatory affairs for the corporate and investment bank at JP Morgan in Chicago.

The consultations on revisions to the operational risk capital framework and credit risk-weighted assets were both open for comment until June, so final standards can be expected in the coming months. Beyond the explicit removal of internal models in those reviews, other initiatives are also under way as part of the broader move to increase the comparability of RWAs.

Capital floors

One widely anticipated development is the introduction of capital floors, which would ensure capital across the system does not drop below a certain level, mitigating so-called model risk and reducing variation in capital ratios.

Following a consultation on a conceptual framework for capital floors in early 2015, the Basel Committee has yet to publish anything further, but the GHOS statement in January confirmed it would review full proposals on the design and calibration of capital floors at or around year-end. The level at which the floors are set will be critical in determining the viability of internal models in the future.

"The detail of the capital floors will be very important, because even though internal models have been retained in theory for some risk types, either a very high calibration of the floor or more onerous tests for model approval could effectively still remove the option to use internal models in practice," says Gheerbrant.

Weighing up all of the recent developments and anticipating the advent of capital floors, it is difficult to imagine a future scenario in which internal models play as significant a role in the capital framework as they have in the past. That's a prospect some risk managers have found disheartening, as it means they could be forced to adopt industry standard metrics that don't reflect risk as accurately as current practice.

Some regulators have responded to these concerns by suggesting that models should continue to be used for risk management and pricing purposes and only be removed when it comes to calculating regulatory capital (see pages 20-23). But such an approach would lead banks to manage risk and capital separately – a practice that would turn the tables on the Basel II framework, which attempted to align capital with internal risk management, industry participants say.

"Calculating separate metrics for risk and capital could lead to very different numbers that senior management would need to consider and reconcile when setting risk appetite and making business decisions. We believe regulators should be looking closely at the assets and risks held by banks to determine model eligibility rather than enforcing a simplified standardised methodology," says Panayiotis Dionysopoulos, director in the risk and capital team at ISDA.

As well as increasing bank capital, enforcing the use of standardised rather than internal models could also pose broader systemic risks. If the vast majority of banks were to use standardised metrics to calculate capital, it would inevitably reduce the diversity of business models across the sector, which is recognised as a risk to the system at times of stress.

"We are concerned by a widespread move towards standardised approaches to capital requirements, because it creates a herd mentality where banks are using the same model to calculate their capital levels. That creates incentives for banks to pursue the same business model, which can be a source of systemic risk when things go wrong," says Toennies.

> "We are concerned by a widespread move towards standardised approaches to capital requirements, because it creates a herd mentality where banks are using the same model to calculate their capital levels"
> *– Debbie Toennies, JP Morgan*

Regulatory support

The arguments against restrictions on internal models have found support among some in the regulatory community. Speaking at ISDA's annual general meeting in Tokyo on April 13, Nobuchika Mori, commissioner of Japan's Financial Services Agency (JFSA), raised the possibility that the pendulum may have swung too far.

Highlighting the numerous new regulations that are now constraining bank balance sheets, including multiple capital ratios, liquidity ratios and the leverage ratio, Mori suggested regulators may have intervened too deeply into banks' internal practices, based on the assumption that innovation in risk management could be abused.

"It looks as if a bank's safety and soundness were surrounded and protected by many layers of thick, defensive walls. Yet, we had better think carefully whether thick walls are enough to attain our dual goal of financial stability and growth," said Mori. "Instead of blindly trusting the thickness of the walls, we need to assess and strengthen the entire framework of prudential regulatory and supervisory policy."

The JFSA is in the process of moving from a framework of static regulation to what Mori terms "dynamic supervision", whereby the impact of new rules are more closely monitored and modified where necessary, with supervisors paying particular attention to banks' relationships with the capital markets and the real economy. A consultation paper is expected to be published soon, which will set out the regulator's plans in greater detail.

While other jurisdictions may choose to adopt similar approaches in the future, it appears that international standards are moving towards a stricter, less risk-sensitive capital framework. As those standards are enforced in the coming years, it will create a need for more stringent supervision at the national level to ensure risks are still being appropriately managed.

"It is perhaps clear that the Basel Committee is looking to return to its core mandate: writing the standards for banking supervision, rather than direct regulation. However, the interplay between a simplistic, international standard and the reality of national legislation makes those standards of supervision key to preventing future banking crises," says Henry Wayne, managing director, regulatory reform in Citi's risk analytics division in London.

In that context, it is perhaps understandable that the Basel Committee sees its current work programme as more of an extension to Basel III than the foundation of Basel IV. But finding an effective balance between risk sensitivity and simplicity that ensures a resilient banking sector with greater consistency in RWAs may turn out to be an elusive goal. While the Basel Committee consulted on that balance in 2013, Wayne believes the industry may not have paid sufficient attention at the time.

"We are now starting to see more direct intervention in the level of risk sensitivity on multiple fronts. As a result, it's not clear that current international standards are really adapted to the realities of today's markets, following the structural reform brought about by other silos of regulation. This remains a concern," he says. ■

Standardised Shortcomings

Regulators hope to make capital calculations more transparent by limiting internal modelling, but the use of more standardised approaches could actually make the process even harder to decipher, writes ISDA's Mark Gheerbrant

THE DRIVING FORCE behind much of the regulatory reform agenda enacted over the past several years has been an attempt to make the banking industry more transparent and intelligible to outside observers.

The move against internal modelling for regulatory capital purposes is part of that. Regulators have been concerned that allowing banks to use their own 'black boxes' for the calculation of risk-weighted assets has made it much harder to trust the final capital ratio number these calculations produce, and even harder to compare the soundness of one bank against another.

Recent attempts to address this include the removal of the internal model approaches for operational risk and credit valuation adjustment, and restrictions on the use of models for credit risk-weighted assets. The introduction of the non-risk sensitive leverage ratio and the planned rollout of capital floors establish further limits on internal model outputs.

Some of the criticisms directed at models are understandable, but we believe there are other ways to address concerns about comparability and transparency – for instance, through greater consistency in model inputs or regular testing procedures. Choosing instead to clamp down on internal models, or prevent their use entirely, has a number of consequences.

For a start, these changes may actually make transparency and intelligibility even harder to achieve. In seeking to curb internal modelling, it is important to not reintroduce flaws that made their adoption seem so sensible in the first place.

Mark Gheerbrant, ISDA

The unique selling point of internal models is that they produce a capital structure that most accurately reflects a bank's individual risk profile. Less risk-sensitive standardised models and backstops do not allow for such a bespoke approach, and can end up overcharging for high-quality assets and undercharging for low-quality assets. This can lead to a misallocation of resources, and encourage banks to gravitate to higher risk, higher reward strategies. Decisions like these may not be fully reflected in the numbers produced by standardised approaches or the leverage ratio, meaning that bank capital ratios will misstate risk. This is likely to make it harder for investors to understand the true strength of a bank.

The ditching of internal models in favour of standardised approaches could also very quickly leave banks out of step with market risk. Banks constantly update their internal models to reflect market developments such as new products, risks or changes in calibration, like a boxer dodging a barrage of punches. The standard approaches are rarely updated by the Basel Committee on Banking Supervision, and hence cannot capture new, unforeseen challenges.

The ISDA SIMM for modelling initial margin payments is a useful comparison. Regulators require it to be recalibrated at least annually, but standardised models for capital undergo the same treatment every five or 10 years at best. Miscalibration of the model is therefore likely.

One of the classic warnings against the introduction of a one-size-fits-all capital model for the banking industry is 'herding'. Banks can have very different risk profiles, and bespoke internal models tailored to the particular requirements of that institution are likely to capture risk more effectively. If all banks use the same standardised approaches, they will be driven towards the same types of businesses, thereby reducing diversity in the industry. This means the range of products available to end users will narrow and all banks will become susceptible to the same stress events.

Limits on internal modelling may also impede prudent hedging, as standardised approaches generally do not adequately reflect the risk-reducing effect of hedges or other risk mitigants like initial margin. This could result in extra costs being passed on to end users, and therefore discourage hedging by corporates and pension funds.

Finally, the introduction of more conservative standardised approaches is likely to increase the amount of required capital in the banking sector. This is despite the fact that the Basel Committee and other regulatory bodies have said that further reforms to the capital framework should not produce an overall increase in capital. These increases could be significant. For example, an industry study on the Basel Committee's Fundamental Review of the Trading Book, conducted by ISDA and other trade associations earlier this year, revealed that market risk capital for FX trading desks could jump by more than six times if that desk loses internal model approval[1].

At a time when the cumulative impact of the various reforms to leverage, liquidity and capital is not sufficiently understood, such a capital increase could have a significantly negative effect on the banking industry's ability to service the real economy. ■

Mark Gheerbrant is head of risk and capital at ISDA in London.

---

1 http://isda.link/qisspotlight

Market at Risk

ISDA-led analysis suggests the FRTB could cause a capital hike of as much as 140%, and participants believe a failure to tackle concerns over internal model approval may force them to exit certain businesses

RENOVATING REGULATION IS a complicated process, but the overhaul of market risk capital requirements has been a particularly long and difficult road for regulators and industry alike. Nearly four years on from the first consultation on the Fundamental Review of the Trading Book (FRTB) in 2012, the final standards were published in January 2016. That should have created a clear path towards implementation, but concerns remain over key components of the new rule book.

While the Basel Committee on Banking Supervision addressed issues that had been raised in response to earlier drafts, industry participants believe the final framework could result in a much greater increase in capital than regulators expect. A lack of clarity around the process for gaining approval to use internal models is also raising concerns, as that could leave many

> "The FRTB makes it much more difficult to gain approval to use internal models for market risk"
> — *John Mitchell, Credit Suisse*

AT A GLANCE

The final Fundamental Review of the Trading Book framework was published in January 2016.

Industry analysis conducted by ISDA and other trade associations suggests market risk capital requirements could increase between 1.5 and 2.4 times under the new rules.

Where banks fall on the spectrum will depend on the extent to which they obtain internal model approval.

The P&L attribution test is an important component in the internal models approval process, but there is uncertainty on how this process will work.

Rules regarding non-modellable risk factors are also a concern, prompting attempts to establish an industry utility.

desks with no option but to use the more capital-intensive standardised approach.

"The FRTB makes it much more difficult to gain approval to use internal models for market risk, and the approval process involves new tests that are not clearly defined, so we can't yet be sure how many desks will pass or fail. That could mean banks will have to hold much more capital than has been estimated by the Basel Committee, as the decrease in internal model usage means significantly higher capital requirements," says John Mitchell, director of market risk management at Credit Suisse.

> "The cliff effect between the capital required under internal models and standardised models is a real concern"
> — *Eric Litvack, ISDA*

Impact

The Basel Committee has not been blind to the potential effect on capital levels, and conducted impact testing during consultation on the FRTB. On publishing the final framework in January, it estimated that the standards would result in a weighted mean increase of roughly 40% in total market risk capital requirements. That estimate was based on data the banks had provided as part of an earlier consultation, and was recalibrated to take account of the alterations in the final rules.

A 40% increase represents a significant hike in capital requirements, but industry analysis that has been undertaken since January suggests the impact could be far greater. Using data submitted by 21 internationally active banks, ISDA joined forces with the Global Financial Markets Association and the Institute of International Finance, in conjunction with the Global Association of Risk Professionals, to run its own impact assessment.

The summary results, published in April, have raised eyebrows. The analysis found the FRTB would result in an increase in market risk capital of 50%, but this estimate is based on the assumption that all banks receive internal model approval for all desks – an unlikely scenario, as the rules deliberately raise the bar that banks must meet to use internal models.

If all desks were to fail the internal model tests, the industry analysis concluded market risk capital would increase by 2.4 times – a 140% hike. Of equal concern is the cliff effect between the standardised approach and the internal models approach, which could see capital requirements increase immediately and steeply if a desk were to lose model approval under the new framework – by as much 6.2 times for a foreign exchange desk and 4.1 times for an equity desk. That could lead to a sudden and destabilising reallocation of capital and business activity.

"The difference between the capital required under the standardised and internal models approaches is disturbing, and we are very concerned about the impact this could have on certain markets. We had been told previously that changes in the risk weights were intended to more closely align the two approaches, but it doesn't seem to have worked. So if this is the intent, some revision is still necessary," says Debbie Toennies, head of regulatory affairs for the corporate and investment bank at JP Morgan in Chicago.

As for the overall capital increase that could result from FRTB, ISDA believes the capital hit for most banks is likely to fall somewhere between 50% and 140%, depending on how many desks secure model approval.

Internal models

To what extent they can achieve that goal is likely to be determined largely by two key factors. First, the calibration of the capital floor framework, currently being considered by the Basel Committee, will determine whether the use of internal models merits the resources required to develop them.

Second, uncertainty about the process for gaining model approval needs to be ironed out before banks can estimate the number of desks that will be able to use internal models.

"There is still uncertainty over the exact nature of the model eligibility requirements, but if they are overly stringent, it could lead to a significant number of desks being relegated to the standardised approach. The cliff effect between the capital required under internal models and standardised models is a real concern, which we think could lead to much more significant increases in capital requirements than regulators intended," says Eric Litvack, chairman of ISDA.

To some extent, the FRTB is more lenient on the use of internal models than other Basel Committee initiatives. While the option to use internal models for operational risk and the credit valuation adjustment is being removed altogether, the committee is retaining internal models for market risk but raising the standards banks must meet to use them. Internal model usage for market risk is dependent upon explicit approval from a bank's supervisor, which will only be granted if a comprehensive set of qualitative and quantitative criteria has been met.

P&L attribution

These tests include profit and loss (P&L) attribution and back-testing, which aim to ensure internal models align properly with front-office systems. If both models produce similar results, then regulators should theoretically have reasonable confidence in the validity of a bank's internal models. But if there is a discrepancy between the two, then it raises a red flag.

"P&L attribution is a sensible concept to test model validity, but it is complex to implement. The framework has not been properly tested and could ultimately fail models that are not actually flawed. We are working to reconcile these issues and hope the regulators will respond, because being forced to use the standardised approach would have serious implications," says Panayiotis Dionysopoulos, director in the risk and capital team at ISDA.

The P&L attribution and back-testing framework is set out in detail in the appendix of the final standards, but a crucial component of the test is inconsistent with the way it is later described in the glossary.

The appendix explains that banks must calculate a risk-theoretical P&L (RTPL) for each trading desk, which is "the P&L that would be produced by the bank's pricing models for the desk if they only included the risk factors used in the risk management model". The FRTB glossary, however, states that the P&L attribution test compares "the hypothetical P&L predicted by risk management models with the actual P&L".

There is a major difference between using front-office pricing models to calculate the RTPL, as per the appendix, and using risk management models, as per the glossary. The appendix approach would primarily focus on risk factor completeness between the two models, while the glossary approach would go further to assess the accuracy of the capital model. The mathematical construct of the test means it will be harder for banks to pass.

Given the final framework for the P&L attribution test had been adjusted from earlier versions of the FRTB, some believe the glossary definition may have been a simple mistake that wasn't updated in the final standards. But until the Basel Committee makes a formal amendment, it is difficult for banks to prepare internally.

"P&L attribution is an entirely new and additional test, so in any form it will necessitate more work and there will be a higher chance of not getting approval for internal models," says Credit Suisse's Mitchell.

Non-modellable risk factors

Concerns over the framework do not stop at the P&L attribution test, however. The FRTB also dictates that for a risk factor to be modelled internally, it must have at least 24 observable 'real' prices per year, with a maximum of one month between two consecutive observations. Any risk factors that do not meet the criteria would be deemed non-modellable and would therefore have to be capitalised using the standardised approach.

"In addition to P&L attribution, banks must determine if each risk factor can use an internal model by tracking how many times trades or quotes occurred in the market relevant to that risk factor," Mitchell explains. "Large banks have tens of thousands of risk factors, which will require a huge amount of granular trade-level data to determine which of them are modellable."

The industry analysis found that non-modellable risk factors (NMRFs) remain a major component (30%) of the internal models approach capital charge. Further, the requirement for 24 price observations to determine the eligibility of a risk factor for inclusion in an internal model relies on a pool of data that does not exist today, and may require some kind of industry utility to be developed.

"This is still at an early stage, but we expect NMRFs to be a key area of focus during the second half of this year. Banks may benefit from some kind of mutualised data solution that would bring together the required data and ensure there is no over capitalisation as a result of NMRFs," explains Dionysopoulos.

Some technology vendors have already risen to the challenge, including Markit, which unveiled a modular offering for FRTB compliance on May 24. It will ultimately be up to the banks to determine what technology they need, but dealing with the data implications of NMRFs looks to be a heavy lift. When combined with the complexity of the P&L attribution and back-testing requirements, the framework could drive some banks to opt voluntarily for the standardised approach, despite the capital costs.

> "P&L attribution is a sensible concept to test model validity, but it is complex to implement"
> *— Panayiotis Dionysopoulos, ISDA*

"With limited time and resources available, and these new and complex requirements for models, it seems likely that more banks will opt to use standardised models instead of internal models and will have to adapt to the additional capital by reducing their market-making activities. Banks are already scaling back or re-evaluating these activities, so the concern is the FRTB will accelerate this," says Mitchell.

It remains to be seen how much appetite the Basel Committee has to make revisions to the final framework, and with a 2019 deadline for implementation, time is short. But if concerns over the P&L attribution test and NMRFs are not tackled, banks may struggle to use internal models and so end up on the higher end of the capital spectrum, participants say.

A capital increase of 140% was the worst-case scenario quantified in the industry's impact assessment, but it could be closer to reality than some would like, which may ironically lead to increased risk-taking among some banks.

"By increasing the quantum of capital required, the trend away from internal model approaches clearly increases the cost of capital market financing by the banking sector, but by reducing risk sensitivity, they also implicitly increase the incentives to allocate capital to riskier activities that generate higher returns," says Litvack. ■

"They Need More Capital"

The concept of risk sensitivity has been central to regulatory capital requirements since the rollout of Basel II, but Thomas Hoenig, vice-chairman of the FDIC, says risk-based capital measures have flaws. The primary focus should be on the leverage ratio, he tells *IQ: ISDA Quarterly* – and he believes bank capital levels need to be stronger

SINCE THE START of this year, global bodies like the Group of 20 (G-20) have been at pains to stress that further refinements to capital, liquidity and leverage reforms should not result in a significant increase in capital across the banking system. Fuelling this has been a creeping anxiety that a further rise in capital, on top of the increases already introduced via Basel III, could constrain bank lending activity and hamper economic growth.

Not everyone agrees with that. For Thomas Hoenig, vice-chairman of the Federal Insurance Deposit Corporation (FDIC), higher capital equals more robust financial institutions, which will enable them to continue lending across the cycle. Rather than reduce or maintain capital at current levels, he thinks the capital base of the largest financial institutions should be made stronger.

The leverage ratio should be central to the regulatory capital framework, he tells *IQ: ISDA Quarterly*. He is sceptical about the use of internal models as a means of setting regulatory capital, and argues that risk-based capital measures do not provide an accurate indicator of bank health, nor their ability to withstand shocks. Instead, the leverage ratio – combined with in-depth supervisory examinations – would provide more reliable information on which to assess capital adequacy, he says.

The FDIC publishes a semiannual global capital index[1], which uses International Financial Reporting Standards (IFRS) to measure tangible equity against balance sheet assets. The most recent report, published in April, shows the average tangible equity capital ratio of the largest eight US banks had increased to 5.97% versus 5.73% in the previous period.

Given this increase, Hoenig expresses disappointment about proposed changes to the leverage ratio standard, released by the Basel Committee on Banking Supervision on April 6. Among the possible modifications is the replacing of the current exposure method (CEM) with the standardised approach for counterparty credit risk (SA-CCR). Market participants have generally welcomed the suggestion, arguing the CEM is a blunt methodology that doesn't differentiate between margined and non-margin trades, and doesn't recognise netting in any meaningful way. In comparison, SA-CCR is more risk-sensitive.

This is a step in the wrong direction, says Hoenig. Making the leverage ratio more risk sensitive would "significantly dilute the effectiveness of the most reliable measure of bank capital and result in increased leverage that does not serve

[1] *www.fdic.gov/about/learn/board/hoenig/capitalizationratios4q15.pdf*

the financial system, broader economy, or even the firms well over the full course of an economic cycle", Hoenig said in a press release accompanying the latest global capital index figures on April 12.

Ensuring banks are robust is important – but so is the ability of banks to go through a bankruptcy without having a knock-on effect on the rest of the financial system. As part of the efforts to ensure banks are never again too big to fail, prudential regulators regularly review the so-called living wills of the largest US global systemically important banks (G-SIBs). While recognising that improvements have been made, the most recent appraisal of resolution plans, published on April 13, found shortcomings in all eight banks' living wills, and the FDIC and Federal Reserve jointly issued notices of deficiencies to five of the firms[2].

In a statement accompanying the release, Hoenig identifies a number of common weaknesses, including how a firm determines when to enter bankruptcy, how its resolution strategy aligns with bankruptcy court proceedings, and how it would pass capital to operating units in anticipation of bankruptcy. Even then, there's no guarantee the collapse of one G-SIB wouldn't push other G-SIBs into trouble, potentially causing a systemic event, he says.

In this interview with *IQ: ISDA Quarterly*, Hoenig discusses efforts to end too-big-to-fail, the leverage ratio, and use of risk-sensitive internal models.

IQ: How much progress do you think has been made in addressing the too-big-to-fail issue? What remains to be done to make the banking system more resilient?

Thomas Hoenig (TH): I do think there has been progress made in an important sense, and these institutions have a better understanding of their own complexity than they did before the crisis, or even relatively soon after the crisis. So, going through the process has caused them to look at themselves and have a better view of where they are. But we are not there yet in terms of their ability to go through resolution without it having a major effect on the economy, as reflected in our recent conclusions on living wills. So we have a way to go, but we've made some progress.

IQ: What else needs to be done? What are the priorities?

TH: How they are organised and governance issues – that is, how they make the decision to go into bankruptcy. That still needs work, so that's number one. Number two – and this is my view – I think the industry still needs to be made more resilient through additional capital. I look at the leverage of these institutions using IFRS, under what we call our global capital index, and they're still leveraged about 20 to one. When you use international standards, and you have a stricter definition for netting, it shows that they're still highly leveraged. And so my point is they need more capital, because if one of them fails, then the shock to the others has to be absorbed. That takes capital – and capital not just to absorb the shocks, but to make sure the market has confidence in their ability to absorb the shocks. I think that continues to be important.

IQ: By 'more capital', do you mean compared to their current levels or more capital compared to what's envisaged when the Basel reforms are fully implemented?

TH: I think both. They need more capital relative to now and relative to what's envisioned. I know Europe seems to be very comfortable with a 3% leverage ratio. We're at 5% and 6%. We know that if there is a major event, then you probably need more than that to withstand it given our past experiences with crises.

IQ: What is your view on the total loss-absorbing capacity (TLAC) proposals? Could that be improved in your opinion?

TH: I think when you put debt into the equation, you introduce the possibility of less stability rather than more. If you put debt in there, then it has to be serviced. Let's say you have TLAC at the parent company and you have a recession and earnings decline. How do you service that debt? Well, you have to service it through the earnings assets, which are the operating subsidiaries. And they need the capital as well, because there's a slowdown in the economy, maybe even a recession. So what do you do then? You can't suspend dividends because they're not dividends – they're interest payments, and if you don't make them, then you go to default. That puts pressure to move cash out of the operating units of the parent to service the debt. Failing to do that, you bring in the question of default. Then you might lose confidence across several of the G-SIBs, and it becomes destabilising rather than stabilising. We need to solve the issue around equity as we go forward. Now, I've said previously that if you're going to use TLAC-type instruments, then it ought to be part of the so-called living-wills process, or input into the resolution process case by case.

IQ: The G-20, the Financial Stability Board and the Basel Committee have all recently stated that any refinements to Basel III to ensure coherence should be made without further significantly increasing overall capital requirements. You seem to disagree with that. Is that a fair assessment?

TH: That's fair. You have regulators assigning relative risks among assets for the future, which means they have to know something about the future. That has made it unstable, as we learned from the Basel II experience, and I'm not sure there will be a better outcome with Basel III. My point is that leverage matters, and capital is a pool that management allocates, not regulators, and then we follow up to that. We need a good pool of capital

[2] *https://www.fdic.gov/news/news/press/2016/pr16031a.pdf*

to give both the individual institutions stability and the market confidence in that stability. It also helps the ability of institutions to withstand one of their peers running into financial difficulty without it spilling over and having a detrimental effect on the others. So I do think we need more capital, yes.

IQ: Various market participants, and some regulators, have called for a comprehensive impact study covering the full package of capital, liquidity, leverage and margin reforms. Do you think this would be useful at this stage?

TH: I'm a strong supporter of research, and would be supportive of doing research along these lines. Some of the research I've seen most recently from the Bank for International Settlements shows that having a strong equity capital base has facilitated lending and has been pro-growth. Those are types of things I think will come out if we do these impact studies, and I would be very supportive. I'd want to make sure that they are objective, but yes, I'd be supportive.

IQ: What's more important to consider: the overall impact across a bank, or the impact on individual business lines? Or both?

TH: Well, here's how I think about it. I think the regulators should have an overall view of the condition of a financial institution, based upon careful analysis and examination work of their own. I think a pool of capital is the bank management's responsibility to allocate. That's why I'm very open to them doing their own risk analysis. Then it is the supervisor's job to go in and review the quality and distribution of assets, the quality of liquidity and the use of that capital to make sure the institution is sound. To some, that seems more traditional in today's world of models. But while I think models are useful, they are also limited. You have to go in and analyse and understand the assets on a fairly comprehensive basis as well.

IQ: To that point, the Basel Committee has recently made several changes to its rules to restrict the use of internal models in several areas, including credit risk-weighted assets, CVA and the advanced measurement approach for operational risk. Is there still a role for internal models in the bank capital framework? From what you've said, it appears you think there is a role for models, but for bank management purposes only.

TH: Correct, I do. Management using models and using their judgement is their job, and I'm very supportive of that. I think models can help – I've used them myself. However, they also require judgment. When you get the supervisor going in and working with the bank on the model, then the supervisor becomes part of management and gets tied in with the model, and that leads to confusion – a confounding of responsibilities. I think that's bad. So, internal models used by management to make their decisions? Fine. But regulators have to use their own analysis, reviews and judgement about the quality of the assets and the distribution of the assets, and the level of capital overall for that institution relative to its total assets on and off balance sheet.

IQ: Do you think then that the Basel Committee should go further – that all use of internal models should be withdrawn from the regulatory capital framework?

TH: This is my opinion, but I don't have confidence in risk-weighted models that regulators design. Risk changes every day of the week, every hour of the day. Models are more static than that, by necessity. So, I don't think models should be playing such a large role. That's why I want a leverage ratio that says 'management, here's your pool of capital'. If you want to raise more, that's your business, and we will judge how you allocate it after the fact.

IQ: The Basel Committee recently re-opened its leverage ratio rule, and proposed several changes, including use of SA-CCR. You've been fairly critical of this methodology. What would be the ideal outcome?

TH: Here's my objection. A leverage ratio is supposed to be constant, and yet the Basel Committee is adjusting that leverage ratio and making it more risk weighted, especially with off-balance-sheet items. That means it's going to be very volatile, and therefore less useful. What we saw with the introduction of a good leverage ratio – and I think we need a stronger leverage ratio – was that people began to price for risk more carefully, and allocate resources without the subsidy that the safety net provides. We should stay on that track. There is no perfect solution. We all acknowledge that. But IFRS is more constant. It considers off-balance-sheet derivatives and has some pretty strict conditions for netting, which I think gives the public a better picture. IFRS can be international if the US adopts it. That means you could compare across banks and across countries more in an apples-to-apples way, with less gaming of the system. There are many positives from that. Then you have a standard leverage ratio that is a reliable measure, it isn't changing all the time, and therefore allows you to make conscious and careful decisions.

IQ: So you would prefer the leverage ratio to be the primary driver of regulatory capital, and the risk-based capital framework playing less of a role?

TH: That is correct. I think the leverage ratio is a good regulatory standard because it doesn't assume knowledge that we don't have. It says 'here's the standard, now you go allocate the capital and make decisions'. But the regulatory authorities have to do the rest of their job too. They have to review the balance sheets of these institutions for quality. They have to review these institutions for how they've allocated their capital across the risk assets on their balance sheet. These are all things this leverage ratio serves, but it takes the regulators doing the rest of their job as well.

IQ: Market participants and several regulators have raised concerns about the impact of the leverage ratio on client clearing – specifically, the lack of recognition of the exposure-reducing impact of segregated client collateral. How do you think any potential impact on client clearing could best be mitigated?

TH: I'm not sure these complaints have been confirmed in terms of reality, because clearing continues to go very well. It continues to grow and transactions get done. Now, whether it is within the bank and subsidised, and you therefore have to price it differently because you have to hold more capital, or whether you have to take it outside the subsidised institution, those are relative pricing issues, but they don't end the ability to clear in any sense at all. That's what we need to keep in mind. There is a pool of capital that is allocated across various uses and opportunities, and management makes those choices. That's what management is supposed to do. For the regulator to say 'well, I want this to grow and therefore I'm going to subsidise it' isn't necessarily good for the market or good for financial stability. I just don't see the clearing market in any kind of trouble, unless I'm missing something.

IQ: Some banks have claimed that one of the potential consequences of restricting the ability of clearing members to recognise client initial margin is that the economics of client clearing may become challenging, encouraging banks to exit the business or only clear for certain types of clients. That could concentrate client clearing among a few large institutions, they argue. Would this be a concern?

TH: First of all, there's no evidence for that. Number two, I have more confidence in the market than they do. Where there is an opportunity, it is usually filled by someone in the market, and clearing is no different. So I don't see where they're going with this, unless they feel they have to have a subsidy to make the market work, and that means there's something wrong with the market in the first place. I have much more confidence in the market than that.

IQ: Domestic regulators have typically applied supervisory discretion when implementing Basel rules to ensure they meet the requirements of their local markets. The Basel Committee, on the other hand, is keen to ensure a globally consistent implementation of the rules. What are the most important considerations in trying to balance these objectives?

TH: Part of the issue in recent history was that there was variation among different countries, because the standards were applied less strictly in some than others. The Basel Committee found that, for the same portfolio, you'd have one bank that held very little risk-weighted capital and one that held more, and that was a concern. So they did look at that, it did concern them, they've begun to address it and I think that's good.

There are other instances where countries are stricter. When it comes to issues that we face in the US – on the type of collateral, the custodial arrangements, issues of re-hypothecation, inter-affiliate margin – those are standards we have an obligation to make sure are implemented in such a way as to support financial stability domestically. That only strengthens our institutions. I find that institutions that are strong compete most successfully. That's extremely important. The last thing I want to do is compete to the bottom because we can't have more demanding standards than anyone else. You have to lead, especially in a country with the kind of financial importance of the US. You have to lead for strength, and I think we should do that. More benefit comes from that than any kind of real cost.

IQ: You mentioned inter-affiliate margin being particularly important. US prudential regulators issued final rules on non-cleared margining requirements for derivatives last October. To what extent was global consistency a key consideration when finalising those rules, and were there any areas where you felt it was important to diverge from the framework developed by the Basel Committee and International Organization of Securities Commissions (IOSCO)?

TH: We do need international standards, and I'm very supportive of that. We need it for margin as well, and we have to work together to come to it and understand how we're able to achieve this. In saying that, there is a need for posting inter-affiliate margin, and I don't think we should agree to a lesser standard when it is necessary to assure long-term financial stability.

It's not so much where the US and other countries may diverge from the framework developed by the Basel Committee and IOSCO, because that framework was rather vague in certain areas. The problem comes in the international harmonisation of local implementations of the Basel-IOSCO framework. It's quite difficult to get multiple regulators to apply a common principle in exactly the same way and by the exactly the same process, simply because there are different rule-making processes. One country will come out in front of another country, and you can't really harmonise to that degree.

There is a desire to reduce needless inconsistencies to ensure the market is as harmonised as possible, while at the same time protecting the risk that comes back to the US framework. There are certain items that we were really concerned about. Collateral posting, because the type of collateral collected by US entities is very important. Custodial arrangements between US entities, because custodial and bankruptcy laws are different in the US. Also limitations on re-hypothecation and inter-affiliate margin. But these are small things given the overall framework. ■

INTERVIEW

10 QUESTIONS WITH…

Jonathan Hunter

Jonathan Hunter, global head of fixed income and currencies at RBC Capital Markets, talks about the changes required to comply with forthcoming margin rules, the need for standardisation, and the role of technology in the derivatives market

1

IQ: What do you expect to be the biggest area of focus for derivatives market participants this year?

Jonathan Hunter (JH): The focus should be on adopting processes that enable the support of margining for non-cleared swaps. This can involve everything from pricing, margin calculation, modelling regulatory approvals and market education. The industry and regulators are taking a phased approach, so not everyone will be required to post margin for non-cleared swaps at the same time. Over the long term, I would expect there to be focus on how business models need to change to adapt to these processes.

2

IQ: What is the biggest challenge for the derivatives industry at the moment?

JH: I believe it is the shift to more standardised solutions in the derivatives market. One of the things that made derivatives so successful was the creation of bespoke instruments that helped clients manage their risks and the coincidental creation of bilateral terms in support of those instruments. However, while that provided effective risk mitigation, it had a number of consequences in terms of creating more complexity in managing the credit, funding, capital and correlation risks of transactions. Now, due to regulatory reform and industry trends, we are moving to more standardised terms and processes.

Every participant in the derivatives industry is at different levels of knowledge, implementation and adoption, and so the challenge is providing standardised solutions to fit bespoke situations. If you can do that, I think that will be a real differentiator.

3

IQ: In what way will derivatives markets change over the next five years?

JH: I think we will see an acceleration of the shift to a standardised framework.

4

IQ: In what way can technology drive evolution of the derivatives market?

JH: Generally speaking, technology can help reduce complexity and cost. More specifically, technology can manage complex documentation, which will help to reduce operational risk; it can be used for settling derivatives, which we are beginning to see with the distributed ledger; and it can help to improve transparency for all market participants and regulators, which is already occurring.

In addition, although not operational yet, the formation of utility-type infrastructures will likely reduce costs and improve processing efficiency for all participants.

Technology is also driving more extensive and improved novation and compression-type services developed by central counterparties and vendors, which are enabling banks to better manage their current footprint.

5

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

JH: There are a number of initiatives that ISDA is working on right now that I believe are very important, including margin for non-cleared swaps and the standard initial margin model (ISDA SIMM), the Fundamental Review of the Trading Book, and the work on capital and regulatory engagement following various quantitative impact studies. There are a host of others, including managing cross-regional implementation risks. Ultimately, our broad focus is on identifying processes that make the markets safer and more efficient and make it easier for participants in the marketplace to do business.

6

IQ: How long have you served on the ISDA board?

JH: I have served on the board since 2009. I joined following the financial crisis, when ISDA was looking to add Canadian representation on the board. I can tell you that the board composition, the developments I'm seeing in the industry, and ISDA itself, is night and day from when I first joined. I think there is more balance in representation from both the sell side, the buy side and industry utilities, and a greater focus now on ensuring the infrastructure is sound.

7

IQ: Other than your current role, what job have you enjoyed most and why?

JH: I have had the opportunity to work in different locales in which RBC has offices, and in operations at different stages of development and position within the market. I started my career in Canada, where we are a full-service bank and have a very well-established brand – Canada's largest financial institution, and one of the largest employers. I went to London in 2000, after we had bought Hambros Bank – we were still building our brand and were not well known. I moved to New York in 2006, where I had opportunity to grow our franchise in the US and grow our US dollar franchise globally. It's the challenges of operating in those places where you have to build the franchise, the team and the culture that I really enjoy. It's been an incredible journey.

8

IQ: If you didn't work in the derivatives markets, what do you think you would be doing?

JH: I would say playing golf, but one of my most recent scorecards confirms I should not quit my day job! I would have liked to have been a school teacher because I've always enjoyed explaining complex issues to people. One of my biggest joys with clients and colleagues is that moment when what you are explaining to them resonates and they understand the point you are making. I believe that if you can't explain an issue to a person with limited knowledge of the topic, then you probably don't understand it that well either. However, I'm not so sure the pace of teaching compared to the pace of this business would suit me as I'd get a little impatient!

9

IQ: What's your favourite memory of your time in the derivatives market?

JH: What's most interesting given all of the challenges that we are facing with regards to regulatory reform, changes in the underlying business structure and how the market operates, particularly as it relates to derivatives, are those moments when we've worked hand in glove with a client to solve issues together. Whether they are documentation issues, exposure issues, regulatory issues, or jurisdictional issues – it's those moments when both parties come to the table and recognise that each has slightly different drivers, but each equally understands and respects the other's position. That creates the aha! moments when you arrive at a solution together. One of my favourite movie scenes is from Apollo 13, when Ed Harris's character instructs his engineers to get together to brainstorm how to make a round filter fit into a square opening on the disabled spacecraft. The derivatives business and what's been going on is very similar to that 'square peg in a round hole' analogy, and I think people are working towards that.

10

IQ: What do you like to do in your spare time?

JH: I spend a lot of time with my family – my wife and three children, and our dog and cat. We have a cottage in Northern Ontario, and spend a fair amount of time there in the summer. I am fascinated with antique wooden boats. I'm not an expert, but I do own an antique boat. The biggest thing I like to do is just unwind a little. This is a fast-paced business with a lot of stresses and challenges, so family time is ever more important. I am also quite heavily involved in my local community through volunteering with the United Way, and through my board work at the Bishop Strachan School in Toronto. ■

Cross-border Challenges

The introduction of margining requirements for non-cleared derivatives is the last of the major G-20 derivatives reforms to be introduced, but cross-border issues are proving challenging

REGULATORS HAVEN'T HAD the greatest track record in recent times when it comes to cooperation, especially in implementing the Group-of-20 (G-20) derivatives reforms agreed in 2009/11. While the G-20 stressed the need for consistency in national rules at the outset, some national authorities moved ahead quickly with their own clearing, trading and reporting requirements before global principles could be agreed. The result is a lack of regulatory harmonisation, creating challenges for cross-border trading.

The process for developing margining requirements for non-cleared derivatives was meant to be different. From an early stage, regulators agreed to draw up a global framework under the auspices of the Basel Committee on Banking Supervision and the International Organization of Securities Commissions (IOSCO). The resulting document, finalised in September 2013 and updated in March 2015, provides a template that national regulators can use to draw up their requirements.

That approach looked to have worked. Final rules have emerged in the US, Japan, Canada and Switzerland, while European supervisory authorities published final draft regulatory technical standards (RTS) on March 8. Other jurisdictions, including Australia, Hong Kong and Singapore, have issued proposals, with final rules expected as *IQ: ISDA Quarterly* went to press. So far, the national requirements have broadly followed the Basel Committee

AT A GLANCE

Margining for non-cleared derivatives is the final piece of the G-20 derivatives reform package to be implemented, and is scheduled for implementation on September 1.

Several national regulators have published final rules in recent months. While the rules largely reflect a global framework developed by the Basel Committee and IOSCO, a number of differences exist between them.

Given these differences, regulators should take a broad outcomes-based approach to substituted compliance/ equivalence determinations.

But there is now also a divergence in the implementation schedule, following an announcement by the European Commission in June that European rules will not be completed in time for a September launch.

and IOSCO template, particularly with regards to thresholds, margin coverage and margin calculation methodologies. Importantly, each national regulator also adopted the Basel Committee-IOSCO implementation schedule, setting a start date of September 1 for phase-one banks.

That carefully orchestrated timetable now looks to be splintering. On June 9, a European Commission (EC) spokesperson confirmed to Bloomberg News[1] that European rules would not be finalised in time for a September launch. European authorities would instead aim to deliver final standards by the end of the year, pushing the start date in Europe to the middle of 2017. No other jurisdiction has so far changed its start date.

Further details were unavailable by the time *IQ: ISDA Quarterly* went to press, but it seems likely the difference in implementation timing will add to the difficulties facing derivatives users that trade across borders. This had already looked to be challenging. While the national margin proposals and rules are largely similar, a number of differences exist in the detail, including scope of coverage and settlement times.

"Numerous challenges stem from some of the differences in the rules," said Keith Bailey, managing director, market structure, at Barclays and an ISDA board member, speaking at ISDA's 31st annual general meeting in Tokyo in April. "Looking back, it was maybe too high an aspiration to think we might have a unified rule."

Entities

A key difference is the scope of coverage, both in terms of the entities and the products that are covered by the requirements. Under rules issued by US prudential regulators and the Commodity Futures Trading Commission (CFTC), for example, a covered swap entity (CSE) is required to adhere to initial and variation margin requirements when trading with other swaps entities and financial end users with material swaps exposure, but transactions with all commercial end users are exempt.

In comparison, the proposed scope in Europe is wider, capturing non-financial corporates (NFCs) with outstanding derivatives notional above a certain threshold, as specified in the European Market Infrastructure Regulation (so-called NFC+s). Overseas end users that would meet the NFC+ criteria if they were established in the European Union (EU) would also be caught by margining requirements when trading with a European counterparty – a fact that may prompt large US or Asian commercial end users to avoid trading non-cleared derivatives with European counterparties.

Furthermore, financial entities of any type are captured under European final draft RTS. Under CFTC and US prudential regulatory requirements, small banks/community banks that qualify for an exemption from clearing are exempt from the margin rules.

The treatment of inter-affiliate transactions also differs from jurisdiction to jurisdiction. US prudential regulators opted to require the covered swaps entities they regulate to collect and post variation margin and collect (but not post) initial margin when conducting swaps with their swaps-entity and financial end-user affiliates (subject to certain thresholds). The CFTC mirrored the variation margin requirement, but chose not to impose an initial-margin collection obligation on inter-affiliate trades, subject to certain conditions.

CFTC-regulated covered swaps entities would, though, have to post initial margin to swap-entity affiliates subject to prudential oversight, in order to allow those entities to meet prudential rules.

In contrast, the final draft European RTS, along with final and proposed rules in other jurisdictions, allow a conditional exemption for intragroup trades.

Products

Differences also emerge in the scope of the products covered. While both US prudential and CFTC rules exempt physically settled foreign exchange swaps and forwards from margin requirements – an approach mirrored in Japanese, Swiss and Canadian final rules – European regulators opted to require variation margin to be exchanged on these products (although an exemption for initial margin was included in the final draft RTS). However, the variation margin requirement for physically settled foreign exchange forwards is subject to a delay until a common EU definition for these products is reached or until December 31, 2018, whichever is earlier. A delegated act clarifying the scope of foreign exchange forwards was published by the EC on April 25, which means it could come into effect before the margin RTS is in force.

Hong Kong regulators have also proposed a variation margin requirement for physically settled foreign exchange swaps and forwards. This creates challenges for those firms that have to meet multiple sets of rules, and could put European and Hong Kong entities at a competitive disadvantage.

Similarly, the European final draft RTS cover equity options, unlike US prudential, CFTC and other rules. Recognising the potential for regulatory arbitrage, European regulators introduced a three-year phase in before these instruments are subject to margin requirements.

Settlement

Another challenging point of difference is the timing of settlement. Final rules from US prudential regulators and the CFTC require initial and variation margin to be settled the day after execution of the trade, or T+1. This approach is more or less mirrored in the European final draft RTS but counterparties can settle variation margin requirements within two business days of the calculation date in certain circumstances – essentially, by pre-funding margin. In order to benefit from the extra time under EU proposed rules, entities that don't post initial margin would need to hand over additional variation margin, calculated using the initial margin methodology, adjusted by the number of days between the calculation date and collection. In a letter to the EC in May, ISDA pointed out that these conditions are too narrow and onerous,

[1] http://www.bloomberg.com/news/articles/2016-06-09/banks-gain-more-time-to-meet-eu-swap-collateral-regulations

meaning market participants will, in practice, be subject to a T+1 deadline[2].

Market participants argue the T+1 time frame presents practical challenges for trades with counterparties in other time zones, particularly in Asia, where markets close much earlier. In comparison, Japanese proposals simply ask for margin to be exchanged as soon as possible after the trade, while Singapore and Hong Kong have proposed T+2 and T+3, respectively.

Canada's final rules and Australia's proposals also provide greater flexibility. European buy-side groups argue that the tight deadline for variation margin collection in the EU proposed rules would, at best, impose significant costs on smaller financial end users, such as pension funds, for little reduction in systemic risk. In its May letter to the EC, ISDA points out that the requirement may limit the ability of investors to hedge risks, and may further contribute to market fragmentation. As a result, ISDA calls for a more practically achievable and proportionate time frame for those counterparties not required to post initial margin to meet variation margin requirements.

Cross-border concerns

These differences in the detail of the rules mean flexible substituted compliance/equivalence regimes that enable global derivatives users to apply comparable foreign rules when trading across borders will be crucial. That's particularly the case because the CFTC's margin rules could end up applying to a large universe of firms that are also subject to overseas requirements.

Under the CFTC's final rule regarding the cross-border application of the margin requirements, non-US CSEs that are consolidated for accounting purposes with an ultimate US parent entity would be captured by US rules, even if the transactions are not guaranteed by a US person. This goes further in extraterritorial reach than the CFTC's cross-border guidance and will potentially mean these so-called non-guaranteed foreign consolidated subsidiaries of US entities will be subject to the CFTC's margin rules, but not the agency's clearing, reporting and trading requirements.

Substituted compliance is available in certain cases. Under CFTC rules, US CSEs and non-CSEs guaranteed by a US person would be required to collect initial margin in line with US rules. However, they can post margin under foreign rules when trading with a non-US counterparty not guaranteed by a US person – but this partial substituted compliance depends on those foreign rules being deemed comparable. Non-US CSEs without a guarantee from a US person, including foreign consolidated subsidiaries, are able to seek full substituted compliance from the CFTC, except when trading with a US CSE or a non-US CSE guaranteed by a US person, where partial substituted compliance is available instead. Non-guaranteed non-US CSEs are excluded from US rules when trading with a non-US counterparty not guaranteed by a US person.

Given the differences that exist in the rules, substituted compliance regimes based on broad outcomes will be important. Comparing different national rule sets on a line-by-line basis could create a situation where rules are not deemed equivalent, even though they achieve the same overall outcomes. That could result in cross-border trades being simultaneously subject to two sets of different margin rules, encouraging firms opting to trade with counterparties in their own jurisdiction – in turn, leading to market fragmentation and decreased liquidity.

The CFTC stresses in its final rules that the substituted compliance determinations will be based on whether they are comparable in "purpose and effect", not on whether they contain identical elements. Despite this, the CFTC states it will make its determinations on an element-by-element basis, creating the possibility that some parts of a foreign regime may be comparable but not others. It also states that consistency of a foreign jurisdiction's margin rules with the global framework developed by the Basel Committee and IOSCO "may not be sufficient to finding comparability".

Given the tight time frame, industry participants are calling for substituted compliance decisions to be made quickly for those rules that have been finalised. While US prudential regulators addressed cross-border trades in their final requirements, the CFTC only published its final rule on May 24.

"With the new regime scheduled for implementation from September, it means there's just months to issue the final rule and make substituted compliance decisions," said Scott O'Malia, ISDA chief executive, speaking on April 28 at the House Committee on Agriculture's Subcommittee on Commodity Exchanges, Energy, and Credit. "Timing is critical as ISDA is developing the legal documentation that will assist market participants in determining whether they will fall within the scope of the margin rules."

However, the implementation delay in Europe means a substituted compliance decision for European rules is unlikely to emerge in the short term. This could also have an impact on cross-border trading, assuming other jurisdictions persevere with the September 1 start date. The extent of the impact is unclear in the absence of further detail from the EC, but it seems likely that trades between two phase-one European banks (including those that are non-US CSEs but don't have a US guarantee and aren't classed as foreign consolidated subsidiaries under US rules) will now not be required to meet initial and variation margin requirements until some time in 2017, when European rules come into force.

On the face of it, this creates an unlevel playing field, but it will depend on the status of each entity and the identity of their counterparties. European phase-one banks will need to meet US margin requirements when trading with US phase-one CSEs from September 1, until such point European rules are finalised and a substituted compliance decision is made.

Those European phase-one banks that are registered with the CFTC as swap dealers may also be subject to

[2] http://isda.link/marginletter

US rules in certain other cases. For instance, if any classify as foreign consolidated subsidiaries, CFTC rules indicate they would have to meet US rules in the absence of a substituted compliance determination.

Impact

Putting aside the cross-border issue, the question is what impact these rules will have. According to analysis published by US prudential regulators, the industry may eventually have to set aside approximately $315 billion in initial margin alone to meet the US requirements[3]. This figure could be significantly higher if firms fail to get approval to use the ISDA SIMM, a standardised initial margin model developed by ISDA (see box, *The ISDA SIMM*). European supervisory authorities estimate the impact for the EU will be about €200 billion[4].

The ultimate effect on the non-cleared derivatives market is unclear, although market participants say the obvious – and intended – consequence will be greater volumes of clearing. "One of the motivations of this is to get people to think about clearing wherever possible, so I think we know the direction of travel. How much, how soon, how fast is anyone's guess," said Ciaran O'Flynn, head of bank resource management for Europe, Middle East and Africa at Morgan Stanley, and an ISDA board member, speaking at the ISDA AGM.

THE ISDA SIMM

A central part of the industry's preparation for the non-cleared margin requirements is the development of a common initial margin model, known as the ISDA SIMM. The rationale for a standardised model was simple: if every firm developed its own 'black box' margin methodology, counterparties would be unable to agree on the initial margin that needs to be exchanged, leading to disputes.

An ISDA working group started working on the project in late 2013, and quickly identified a set of criteria that should govern the development of the model. These included simplicity and transparency, ease of replication, cost and speed. Ultimately, the group settled on a version based on the sensitivity based approach, introduced by the Basel Committee on Banking Supervision as part of its reform of the market risk capital framework. This model was tailored to meet the one-tailed 99% confidence interval over a 10-day horizon requirement set by regulators.

"We want to maintain the SIMM as a simple, transparent model that is common to everybody. It should always be low cost, highly transparent and easy to govern," said Eduardo Epperlein, global head of risk methodology at Nomura, speaking at the ISDA annual general meeting (AGM) in Tokyo in April.

In order to calculate initial margin, participants will need to determine sensitivities for specified risk factors, and these then need to be mapped consistently to particular risk buckets. Risk weights are defined for each for the risk buckets, and correlation effects are also taken into account. To ensure global consistency in the calculation, parameters within the model, such as risk weights and correlations, are determined centrally by ISDA. To eliminate uncertainties in the risk-bucket mapping of certain asset classes, ISDA has also appointed a third party to run a crowd-sourcing utility, which will aggregate data to determine the consensus approach.

"I know this sounds really daunting. What ISDA has been doing is trying to standardise this process to make it as easy as possible to cut down on the number of calculations so that people can do this on a consistent basis in time for that 7am margin process," said Tomo Kodama, a managing director in the counterparty portfolio management group at Bank of America Merrill Lynch, also speaking at the ISDA AGM.

The model is now finished from a design perspective. ISDA has been touring the globe in recent months, showing the methodology to regulators, alongside a transparent governance structure, in order to smooth the path to implementation. The technical details of the model, along with calibration, back-testing and benchmarking results, are being shared with regulators.

Going forward, ISDA will continue to play a role in the governance of the ISDA SIMM by considering the incorporation of new risk factors, conducting an annual recalibration of risk weights and correlations, and performing ongoing monitoring and back-testing. ISDA will also liaise with regulators on the governance and any further development of the ISDA SIMM.

However, as the implementation date of September 1, 2016 draws closer, it is important regulators move quickly to acknowledge that the ISDA SIMM is fit for service and then begin approving use of the model at the firm-level. Without the ISDA SIMM, firms will have no option but to use the Basel Committee-IOSCO standard tables, which will result in as much as 10-15 times more initial margin – amounts that could hamper trading activity.

For more information, visit: http://www2.isda.org/functional-areas/wgmr-implementation/.

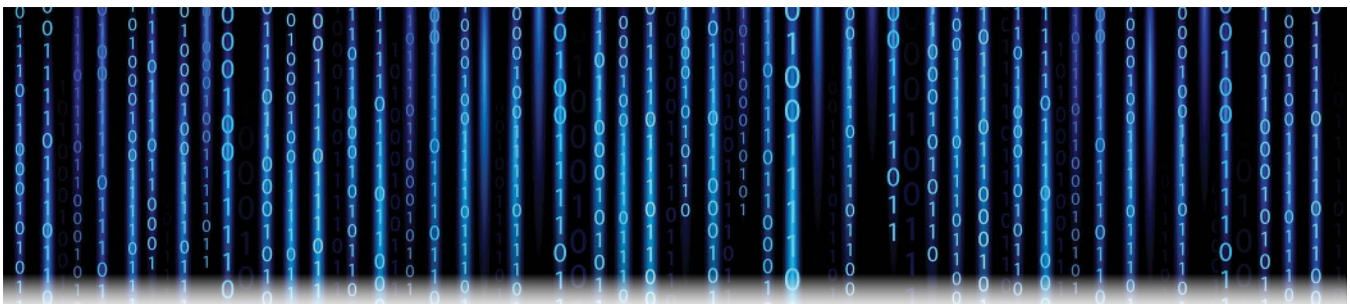
---

3 US prudential regulators, 12 CFR Part 1221, Margin and Capital Requirements for Covered Swap Entities; Final Rule, page 74891, https://www.gpo.gov/fdsys/pkg/FR-2015-11-30/pdf/2015-28671.pdf

4 European supervisory authorities, final draft regulatory technical standards on risk-mitigation techniques for OTC-derivative contracts not cleared by a CCP under Article 11(15) of Regulation (EU) No 648/2012, page 93, https://www.eba.europa.eu/documents/10180/1398349/RTS+on+Risk+Mitigation+Techniques+for+OTC+contracts+%28JC-2016-+18%29.pdf/fb0b3387-3366-4c56-9e25-74b2a4997e1d

Reforming Reporting

Dual-sided reporting regimes adopted in some jurisdictions have proven costly and over-complex. Regulators should adopt a single entity-approach to improve access to data and allow for global harmonisation of reporting standards, ISDA and other industry associations argue



REGULATORS NOW HAVE more derivatives transaction data at their fingertips than ever before. But using this data to develop an aggregate view of market exposures and to monitor risks that pose a threat to the stability of the financial system has been challenging – partly due to different reporting rules among jurisdictions and variations in data reporting formats[1].

National regulators and global regulatory bodies have ramped up their efforts to tackle these problems, but one issue has not yet been put on the global to-do list: an agreement on which party should report the trade.

While many regulators recognise that the reporting responsibility should rest solely with a single party (typically the clearing house for a cleared trade and the dealer counterparty for a bilateral transaction), some require both parties to report the full terms of the trade separately. Even in cases where only one party is required to report, certain jurisdictions require the non-reporting entity to confirm the accuracy of the data reported by the other party or supplement the data. Some reporting entities are even required to confirm, on a transaction-by-transaction basis, that a trade is not reportable under a particular regulatory regime.

The rationale is that these forms of dual-sided reporting obligations will improve the quality of the data reported. However, evidence has shown this is not the case. For instance, confirmation execution rates are generally at or above 90%, whereas pairing rates at trade repositories used in dual-sided reporting regimes are around 60%. Matching rates are assumed to be even lower than this. Dual-sided reporting also creates cost and complexity for end users, with little apparent gain.

ISDA recently assembled a coalition of 13 industry associations[2] to argue that an entity-based reporting framework – where sole responsibility for the accuracy

AT A GLANCE

Reporting is a key part of the overall derivatives reform framework, giving supervisors timely and accurate information about trends in the market.

However, the dual-sided system pursued in some jurisdictions, which requires both counterparties to report details of a trade, is not fit for purpose.

Dual-sided reporting adds additional costs and complexity and provides no obvious benefit. It increases errors in the reporting process, and weakens the value of data available to regulators.

The global adoption of entity-based reporting will improve data collection and contribute to the harmonisation of broader reporting standards.

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

[2] The Alternative Investment Management Association, the Association of Corporate Treasurers, the Australian Financial Markets Association, the US Chamber of Commerce's Center for Capital Markets Competitiveness, the Coalition for Derivatives End-Users, the Global FX Division of the Global Financial Markets Association, ICI Global, the Investment Association, ISDA, Managed Funds Association, the US National Association of Manufacturers, the Securities Industry and Financial Markets Association's Asset Management Group, and Pensions Europe

of the reported data is assigned to one counterparty via an automated hierarchy system – is an essential counterpart to high-level harmonisation of data reporting standards. A streamlined approach to reporting would significantly reduce the operational complexity associated with current reporting requirements, reduce costs and, in almost all cases, eliminate the reporting burden for non-dealer derivatives users.

The simplification of the reporting process, combined with initiatives by global regulators to improve the clarity and specificity of their requirements, would lead to improvements in data quality.

> Regulators should move to an entity-based reporting regime on a global basis, and the reporting party should be the counterparty with the most robust existing reporting infrastructure and with the timeliest access to the complete data

Entity-based Reporting Benefits

1. Entity-based reporting will reduce the cost and burden of transaction reporting currently placed on end users

The costs and effort of establishing and maintaining reporting infrastructure to satisfy obligations in one or multiple jurisdictions are significant. The work is substantial for major market participants, but is much more challenging for those end-user counterparties that lack the infrastructure and resources to build a reporting mechanism or invest in a third-party provider. This may inhibit the ability of some end users to participate in the derivatives market.

In some jurisdictions, market participants have already spent time and resources to establish reporting mechanisms, but this does not justify the continuation of duplicative reporting obligations, given the substantial ongoing costs to maintain reporting structures and amend them as regulations develop.

ISDA, in coordination with certain end-user trade associations, recently conducted a survey on the costs for derivatives end users associated with dual-sided reporting under the European Market Infrastructure Regulation (EMIR). The survey asked end users to provide the initial cost to their firms of implementing reporting technologies, the annual cost of maintaining those technologies, and the resources involved in reporting transaction data.

The survey found that nearly 45% of respondents incurred annual costs of over €100,000. For some institutions, the burden is much greater: 7.3% of end users surveyed spent between €500,000 and €2 million per year, and 4.4% spent more than €2 million per annum. These costs are a significant burden, particularly for smaller end users. As potentially thousands of firms are subject to EMIR, the aggregate expense of the dual-sided reporting regime is estimated to exceed €100 million.

The cost burden can also be significant for parties that are not required to report complete records of transaction data. For example, some regulators require the 'non-reporting' party to report transaction data to supplement the information submitted by the reporting party, to report that they 'affirm' the accuracy of the data reported by the other party, or to verify that their side of the trade is not reportable.

These obligations result in overlapping reporting obligations because these non-reporting parties still have to sign up to a trade repository, or potentially multiple trade repositories, depending on where data has been reported. They also need to build mechanisms to report supplemental information, or to review and affirm data. As the data submitted by the reporting party is translated into the format required by the relevant regulations and/or the trade repository, it will not align with the way in which the non-reporting party captures the data in its own systems. In order to automate reconciliation and verification of the information, the non-reporting party would need to transform its data, largely undermining any purported reduced burden of its secondary obligations.

Although most jurisdictions allow end users to delegate reporting obligations to the other counterparty, these arrangements involve cost and effort. Delegated reporting, therefore, does not eliminate the burden for end users. Apart from having to maintain and reconcile data across multiple delegated reporting agreements, non-reporting firms also face significant ongoing costs in verifying that trades have been correctly reported on their behalf, and in reconciling this data if an inconsistency is found. Dealer-specific delegated reporting services make it difficult for non-dealers to reconcile across multiple sources, creating a challenging operational environment and exacerbating data-quality issues.

The need for end users to transact with a dealer that provides delegated reporting services also limits their execution options and places an artificial constraint on liquidity. As delegated reporting offerings do not cover the reporting of intragroup transactions, many end users are still required to develop the infrastructure to report these trades. The end-user survey found that 75% of respondents said they still need to report transactions (such as intragroup trades), so only 25% rely solely on a delegated reporting model. This model also puts additional requirements on dealer counterparties without actually providing a two-sided view of the data.

In light of this, regulators should move to an entity-based reporting regime on a global basis, and the reporting party should be the counterparty with the most robust existing reporting infrastructure and with the timeliest access to the complete data. This is most likely to be the clearing house for cleared trades and the dealer for bilateral transactions. Where the two counterparties have equal capabilities, they should agree in advance which party will report, based on existing industry standards[3]. The party with the reporting obligation for a transaction should be directly responsible for the accuracy of the data, and the non-reporting party should not be obligated to verify the data or confirm it is not required to report the transaction.

Intragroup trades for non-financial end-user entities should be exempt from reporting requirements, as data from these transactions does not contribute to an overall understanding of systemic risk. This reporting obligation also places disproportionate costs on end users.

2. Entity-based reporting will eliminate the duplication and replication of other regulatory requirements

Alongside monitoring the build-up of systemic risk, some regulators believe a dual-sided reporting framework can serve as a dispute-resolution mechanism. However, market mechanisms and specific regulatory requirements designed to link and match trades and resolve disputes already exist. Therefore, using duplicative reporting obligations for these purposes is unnecessary.

Trade reporting is not, and should not be, a means by which parties agree to the terms of their transactions. Execution methods and confirmation processes, which are well-established and legally binding, serve this role. Regulators require transparency on transaction terms, but it is neither necessary nor effective to create redundant requirements that conflict with those that currently exist in bilateral processes.

Separate from transaction reporting, regulators already impose a number of requirements on market participants to verify they are in agreement on the terms of their transactions and their relevant valuations. These mandates for timely trade confirmation, portfolio reconciliation, portfolio valuation and dispute resolution help to mitigate the risk of any materially significant discrepancies and result in the correction of errors in the economic terms of the reported trade.

An additional regulatory rationale for dual-sided reporting is to reduce the risk of parties inadvertently failing to report a trade. However, this risk is very low given that dealers have invested significant resources in automating their reporting processes and establishing compliance staff and procedures to ensure trades are reported in accordance with the regulations in each jurisdiction.

Trade reporting is not, and should not be, a means by which parties agree to the terms of their transactions

The additional burden placed on non-dealers to report, supplement or verify transaction data is unnecessary given the extensive reconciliation requirements of global regulators and established bilateral processes for obtaining transaction certainty.

3. Streamlined, clarified reporting obligations are a more effective tool to improve the quality or accuracy of reported transactional data than overlapping reporting obligations

Efforts to address discrepancies in transaction reporting show that differences in the data reported by each party for the same trades do not mean the parties do not agree on the terms of the transaction. In almost all cases, the discrepancy can be attributed to either: (i) fields that are required for reporting, but are not material terms of the transaction or its confirmation (ie, the unique transaction identifier (UTI) or a party's legal entity identifier); or (ii) a difference in the way the data for the field is reported (eg, notional currency in an ISO 4217 value such as CNY versus use of a non-ISO value such as CNH).

Trade reporting regulations include myriad requirements for data elements that are not part of the trade execution or confirmation process, but are useful to regulators for the purposes of understanding, comparing or aggregating the trade data. These include trade, product and party identifiers, as well as jurisdiction-specific party classifications. These data elements are generally not difficult for a single party to report. But if the information needs to be communicated between the parties in advance of reporting for consistent application (as with UTIs), then the challenge is significant – particularly in cases where an electronic exchange method is not available.

Firms also have individualised trade-capture systems, and therefore book and house transaction data differently. This data must be transformed into a standardised format for transaction reporting. Where the regulatory requirements for permitted values or formats are not specific or do not align with market-standard representations, they may be interpreted and implemented differently by trade repositories and reporting entities. Resolving these different representations therefore does not involve material trade discrepancies between the parties, but only the way in which that data is presented to the trade repository.

In these cases, it is the data representation that does not match, rather than the material terms of the transaction. Therefore, a uniform representation by both parties does not necessarily improve the accuracy of the data available to regulators. The need to reconcile the data in a dual-sided reporting regime detracts, rather than aids, the ability of regulators to rely on and use the data.

Risk-mitigation techniques such as confirmations, settlements and portfolio reconciliation have low levels of discrepancies relative to the matching statistics of reported data in dual-sided regimes. The vast majority of confirmations are executed within a day, providing parties with legal certainty on the material economic terms of their transactions. Confirmation rates for most asset classes are at or above 90% at any given point.

In comparison, pairing (where the legal and trade identifiers to a particular trade are correctly aligned) runs at a success rate of around 60% at trade repositories for dual-sided reporting regimes,

[3] ISDA Asset Class Tie-breaker Logic, March 2016: http://isda.link/assetclasstiebreaker

according to ISDA analysis. Matching (where all trade data is correctly submitted by both counterparties) can be assumed to occur even less frequently.

requirements are significant. Industry recommendations and standards for determining which party is best positioned to report, or otherwise agree

> Dual-sided reporting obligations create an enormous additional burden on market participants to report and maintain transaction data that is already being reported by their counterparty

which party should report, are already established and should be leveraged consistently on a global basis.

This suggests that it is the extra fields required for reporting non-material terms that lead to inconsistencies and poor pairing rates. Eliminating dual-sided reporting obligations would allow parties to reallocate resources used to resolve these non-material breaks to focus instead on the quality of their own reported data, therefore improving the data available to regulators.

Reporting entities, trade repositories and regulators are actively engaged in various efforts to address the need for specificity, clarity and consistency with respect to reportable data requirements. These collective efforts will more effectively improve the quality of reported data than requirements that involve both parties in agreeing on the representation of reported data.

4. Entity-based reporting will make high-level, multi-jurisdictional harmonisation of reporting requirements easier and more effective

Dual-sided reporting obligations create an enormous additional burden on market participants to report and maintain transaction data that is already being reported by their counterparty. This duplicative data undermines rather than enhances use of the data by regulators, as it falsely implies the parties have material discrepancies.

Requirements for a non-reporting party to supplement or verify reported data, or confirm it does not have an obligation to report, are inconsistent with the regulatory goal of limiting the burden placed on both counterparties. The cost and effort for both end-user counterparties and dealers to comply with these requirements are significant. Industry recommendations and standards for determining which party is best positioned to report, or otherwise agree which party should report, are already established and should be leveraged consistently on a global basis.

Global regulators are actively working to improve the quality and consistency of data requirements, in order to both increase the quality of the data and to facilitate global data aggregation and analysis. If a single counterparty could report a transaction globally in the relevant jurisdictions using the same data representation, the task of analysing globally aggregated data would be much more manageable.

The harmonisation of reporting obligations globally reduces cost and improves the efficiency and consistency of reporting. An aligned approach where the single party best situated to report is assigned full responsibility for the reporting process is an important aspect of those aims that should be carefully reconsidered by global regulators.

NEXT STEPS

An entity-based reporting framework should be adopted across jurisdictions: Dual-sided reporting is complex, costly, and has not provided demonstrably improved levels of data quality. An entity-based reporting framework, where sole reporting responsibility is assigned to one counterparty (typically a dealer or central counterparty), can provide the requisite level of trade information and reduce burdens on derivatives end users.

Existing processes, and not dual-sided reporting, should be used to identify mismatches in trade terms: Execution and confirmation processes already serve an established and legally binding role in rooting out discrepancies in trade terms. Using trade reporting for this process is unnecessary, ineffective, and adds further complexity to the process.

A tie-breaker methodology for determining the responsible reporting party should be implemented consistently: The associations believe the reporting entity and UTI-generating party for any specific trade can be successfully determined by application of a reporting-party hierarchy and 'tie-breaker logic'. ISDA has developed an industry-agreed methodology for this process that is specific to each individual asset class. A dealer will always be the reporting entity when transacting with a non-dealer counterparty, and two dealers will apply the tie-breaker logic to determine which firm will act as the reporting party when executing a trade between themselves.

Legal responsibility for non-reporting counterparties to verify trade reports should be removed: Some jurisdictions that assign reporting responsibility to one counterparty still require the non-reporting counterparty to verify the accuracy of the data, supplement the data or provide information associated with the trade, such as whether it is required to report or not. This is dual-sided reporting in disguise, and places unnecessary cost burdens on end users.

Greater focus should be placed on global data harmonisation efforts: Entity-based reporting can only be fully successful within a global, fully harmonised reporting system. Global regulators should align their reporting rules, and data fields should be based on existing market practices. Data harmonisation should be led by the Committee on Payments and Market Infrastructures and International Organization of Securities Commissions to ensure global consistency.

Liquidity Split Persists

Nearly three years on from the introduction of US SEF rules, the euro interest rate swaps market continues to be overwhelmingly traded between European counterparties in Europe, with little participation by US dealers

When the Group-of-20 nations agreed their commitments for derivatives reform in 2009, they set some important principles. Recognising that regulators would need to take action at the national level, they highlighted the risks of a fragmentation of markets, and stressed that standards should be implemented consistently in a way that ensures a level playing field. Seven years on, significant progress has been made in implementing clearing, trading, reporting, capital and margin rules in many jurisdictions. On the issue of global consistency, however, regulators have been less successful.

The impact of this has been most visible in the European regional market for cleared euro interest rate swaps (IRS). Activity is now overwhelmingly dominated by trading between European counterparties, with US dealers accounting for a fraction of the trading that they used to.

The timing of the change can be traced back to the introduction of US swap execution facility (SEF) rules in October 2013. From that date, all electronic trading venues providing access to US persons had to register with the Commodity Futures Trading Commission (CFTC) as SEFs and comply with US SEF rules. Many non-US platforms opted not to register, given potential conflicts with rules in their own jurisdictions.

The first derivatives products were mandated by the CFTC to trade on these platforms from February 15, 2014 under a process known as 'made available to trade' (MAT). From that point, US persons had to trade those mandated product classes on registered SEFs – meaning they could no longer trade on overseas platforms that had opted not to register.

> Any split in liquidity pools results in reduced choice for end users, potentially leads to higher costs, and could make it more challenging to unwind large positions in volatile markets

The result is a split of euro IRS liquidity into distinct geographical pools. The European pool is the most liquid, and involves primarily European counterparties. A separate euro IRS pool exists in the US, but this is much smaller than the European market.

AT A GLANCE

The cleared euro IRS market remains stubbornly fractured following the introduction of the US SEF regime in October 2013.

Trades between European counterparties comprised 91.2% of euro IRS activity in the European regional market in December 2015. This figure was just 70.7% in September 2013, before the SEF rules were introduced.

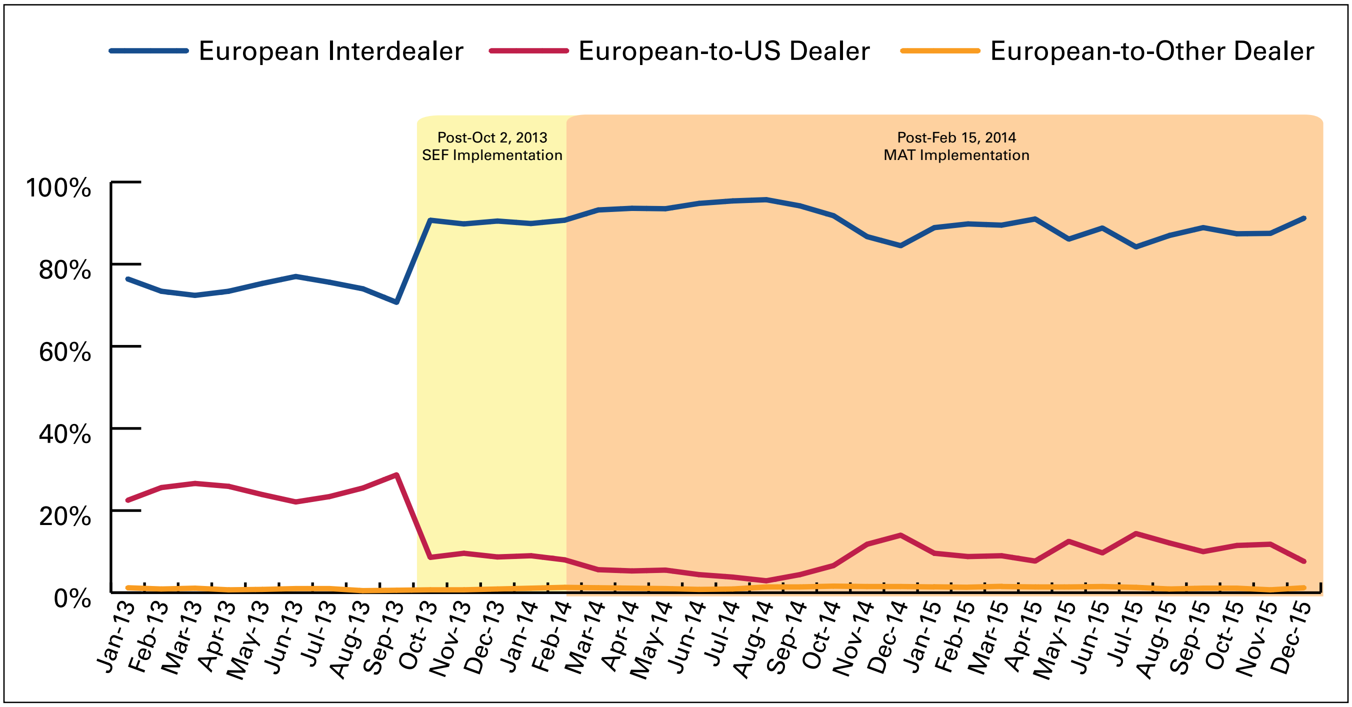
The split in liquidity has been continuous, with a monthly average of 90.2% of euro IRS trades conducted between European dealers between October 2013 and December 2015.

Activity in the US regional market for US dollar IRS is more evenly split, with 47.3% of activity transacted between European and US dealers in December 2015.

Any split in liquidity pools results in reduced choice for end users, potentially leads to higher costs, and could make it more challenging to unwind large positions in volatile markets.

The fracturing of liquidity could be prevented or reversed by the harmonisation of national rules and the introduction of a flexible substituted compliance/

CHART 1: THE EUROPEAN MARKET FOR EURO IRS: PERCENTAGE OF MARKET SHARE



equivalence framework based on broad outcomes. However, most jurisdictions have not yet implemented trade execution rules. Japan launched a limited trade execution mandate in September 2015, but the European Union is still in the process of finalising its revised Markets in Financial Instruments Directive, and the trading obligation is not expected to be implemented until 2018.

> The European market for euro IRS experienced a significant shift in the immediate aftermath of the US SEF regime coming into force

Given the lack of harmonisation, the fracturing of the euro IRS market shows no signs of reversing, according to analysis conducted by ISDA[1].

Euro IRS

The European market for euro IRS experienced a significant shift in the immediate aftermath of the US SEF regime coming into force (see Chart 1). In October 2013, the proportion of trading activity conducted by European dealers leapt to 90.7%, compared with 70.7% the month before. That proportion has remained more or less steady ever since, averaging 90.2% between October 2013 and December 2015. European dealer activity accounted for 91.2% of monthly trading volume in December 2015, the highest level of the year.

In contrast, US dealer activity in the European market for euro IRS has shrunk. Having comprised 28.7% of market share in September 2013, European-dealer-to-US-dealer flows slipped to just 8.6% of trading activity the following month. Again, the proportion has remained steady since October 2013, and stood at 7.6% in December 2015.

Total notional volume in the European market for euro IRS has remained constant over that time. Average monthly notional volume in the nine months preceding the implementation of the SEF regime stood at €2.68 trillion, compared with a monthly average of €2.75 trillion in the period between October 2013 and December 2015.

European dealer trading volumes have risen over this time. Average monthly notional volumes rose 25% between October 2013 and December 2015, from €1.99 trillion to €2.48 trillion. In comparison, European-to-US dealer cross-border flows fell by 64%, from €661.5 billion to €236.1 billion.

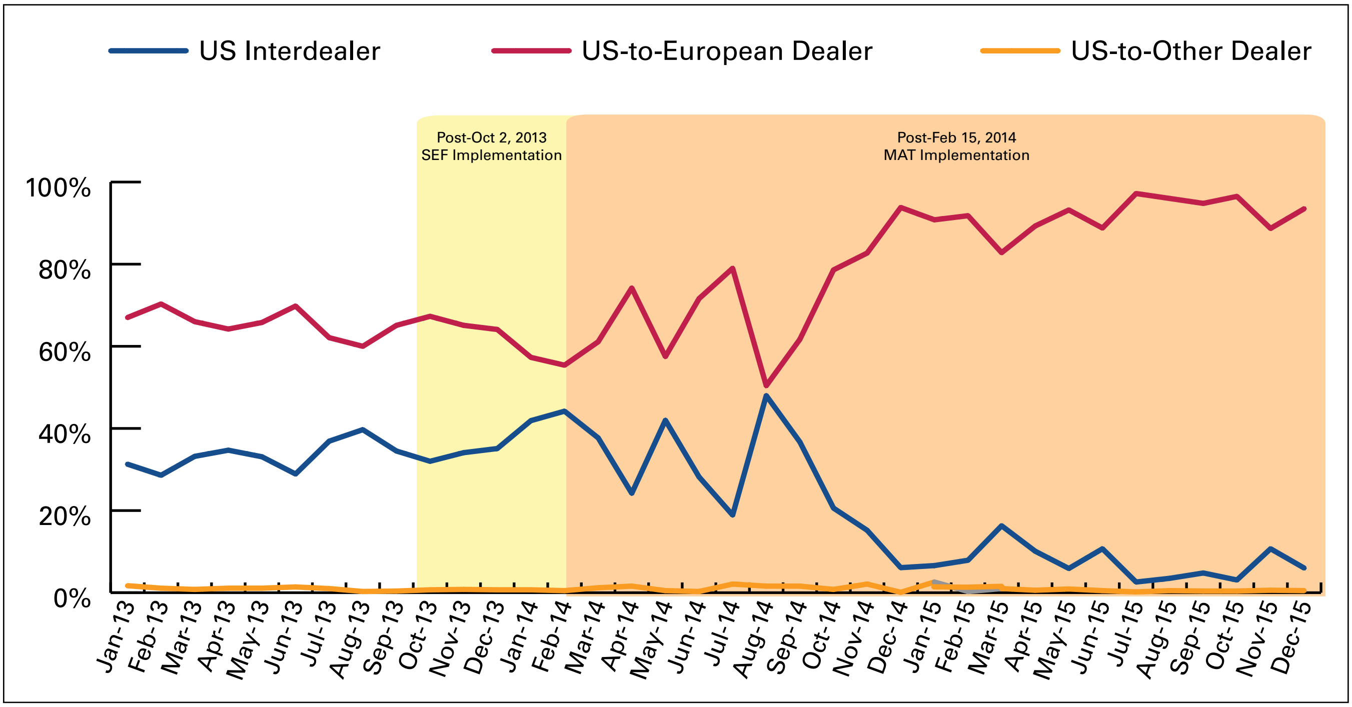
While the European pool is dominated by European dealers, the US market for euro IRS is more cross-border in nature, with European dealers opting to trade on SEFs with US dealers[2]. During the fourth quarter of 2015, reported euro IRS accounted for roughly 6% of total electronically traded swap volumes.

European-to-US cross-border flows have been the primary source of trading activity in the US regional euro IRS

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

[2] The US market for cleared euro IRS consists of mostly MAT swaps traded on a SEF. Euro-denominated plain vanilla IRS fall under the US clearing mandate, and certain classes have been deemed MAT. However, block trades that are cleared (and are part of this dataset) may not be reported as trading on a SEF

CHART 2: THE US MARKET FOR EURO IRS: PERCENTAGE OF MARKET SHARE



market for some time, but these flows have increased in dominance since August 2014 (see Chart 2). In December 2015, euro IRS trading between US and European dealers comprised 93.5% of total volume. The remaining activity was mostly concentrated in the dwindling US interdealer regional market, which accounted for just 6% of market share in December 2015.

Monthly euro IRS notional volumes in the US regional market declined sharply following the introduction of the SEF rules, as flows shifted away from the US liquidity pool into the European liquidity pool. Comparing average total monthly notional volume from the period leading up to the SEF rules (January 2013 to October 2013) to the period after the SEF rules came into force (October 2013 to December 2015) reveals a dramatic

CHART 3: THE EUROPEAN MARKET FOR US DOLLAR IRS: PERCENTAGE OF MARKET SHARE

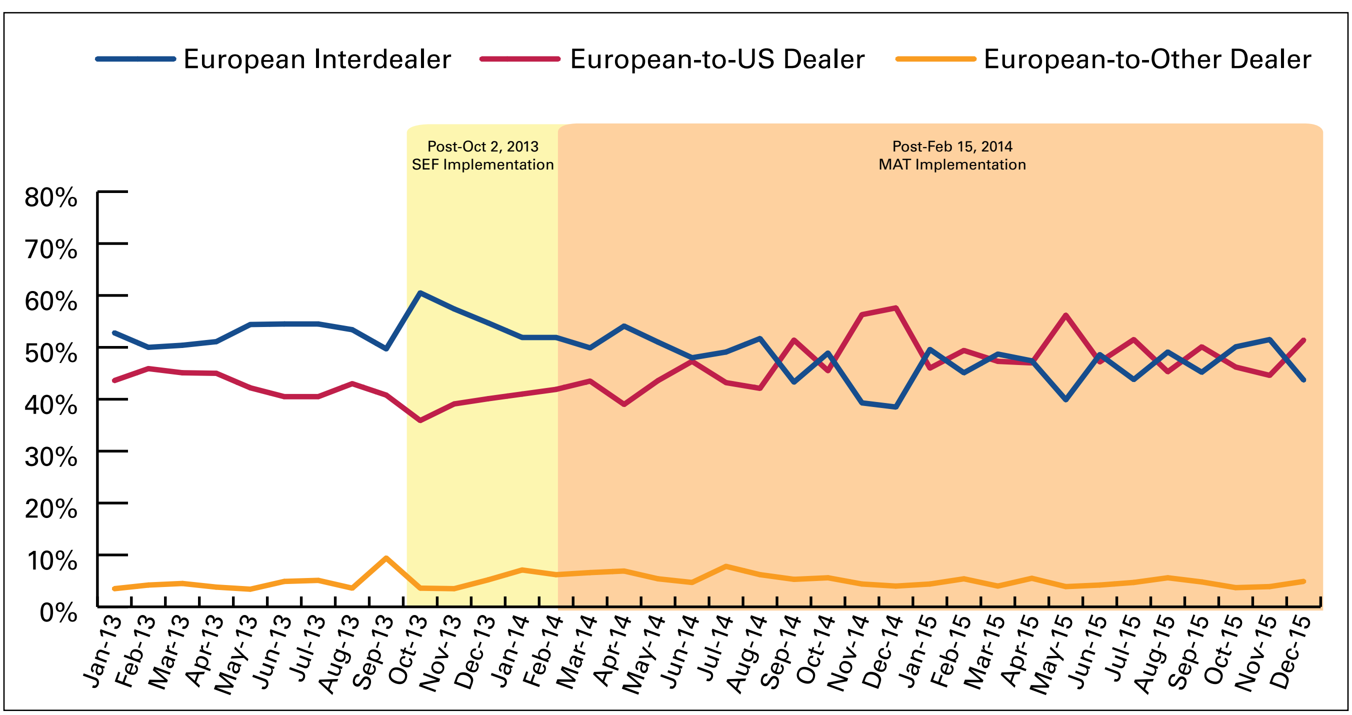
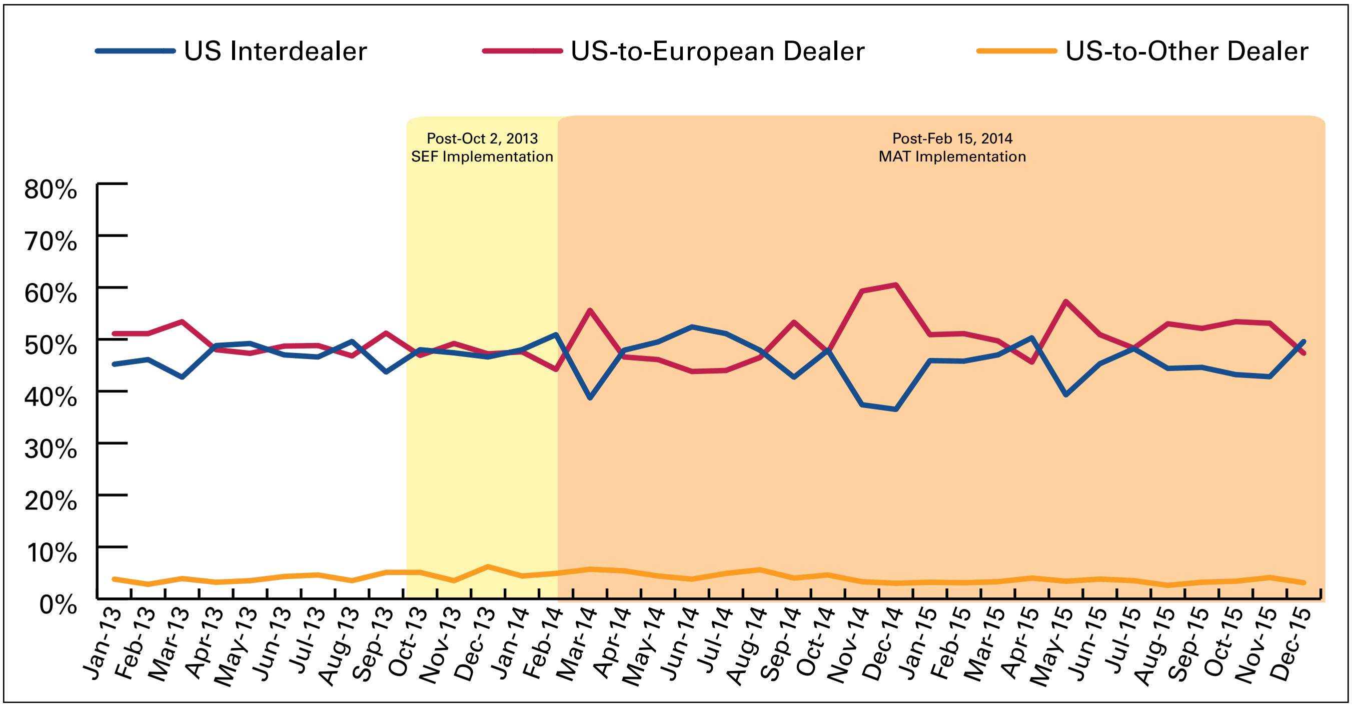


CHART 4: THE US MARKET FOR US DOLLAR IRS: PERCENTAGE OF MARKET SHARE



decline of 70.5%, from €1.01 trillion to €298 billion.

The decline in average monthly volume was the most severe in the US-dealer-to-US-dealer segment, which fell by 82.2% over the period.

US dollar IRS

US dealers are the largest regional counterparty to the European dealer community in the European market for US dollar IRS. After an initial spike in European interdealer activity following the introduction of the SEF regime, cross-border liquidity has caught up with European interdealer liquidity pool, particularly since the third quarter of 2014 (see Chart 3). European-to-US-dealer flows accounted for 40.8% of market share in September 2013, but this stood at 51.4% in December 2015.

The total volume of US dollar-denominated swaps traded in Europe has remained relatively constant over the two-year period. Average monthly notional volumes in the nine months before the SEF rules came into effect were $1.409 trillion, compared with a monthly average of $1.417 trillion in the period since.

Average monthly European-to-US dealer volume for US dollar IRS in the European regional pool increased 9%, from $604 billion to $656 billion over the two periods. The increase appears to have come at the expense of exclusive European interdealer trading, where average monthly notional volumes fell by 7% between the two periods.

> Monthly euro IRS notional volumes in the US regional market declined sharply following the introduction of the SEF rules

The structure of the US market for US dollar IRS looks quite similar to the European market for the same product. Market share is split between European-to-US dealer cross-border flows and US interdealer trading (see Chart 4). These two pools comprised 47.3% and 49.6% of market share, respectively, in December 2015.

Comparing total average monthly US dollar IRS notional volume in the US regional pool before (January 2013 to September 2013) and after the SEF rules came into force (October 2013 to December 2015) reveals an 8% increase, from $1.22 trillion to $1.31 trillion. US interdealer flows increased by 5% over the period, from $569 billion to $597 billion. Meanwhile, European-to-US cross-border flows increased by 9%, from $604 billion to $656 billion.

Conclusion

Since the US SEF rules came into force in October 2013, global interest rate swap markets have exhibited varying levels of market fragmentation. This pattern is most persistent in euro-denominated IRS, where the vast majority of trading activity occurs between European dealers.

Fragmentation is much less evident in the US dollar IRS market, with activity split between US, European and cross-border pools. This has remained relatively steady since the SEF rules were implemented.

However, any further increase in cross-border trading is likely to require further harmonisation of global derivatives regulation. ■

ISDA®

Safe,
Efficient
Markets

www.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

OFFICE LOCATIONS

NEW YORK
360 Madison Avenue
16th Floor
New York, NY 10017
Phone: 212 901 6000
Fax: 212 901 6001
isda@isda.org

WASHINGTON
1101 Pennsylvania Avenue
Suite 600
Washington, DC 20004
Phone: 202 756 2980
Fax: 202 756 0271
isda@isda.org

LONDON
One Bishops Square
London E1 6AD
United Kingdom
Phone: 44 (0) 20 3088 3550
Fax: 44 (0) 20 3088 3555
isdaeurope@isda.org

BRUSSELS
ISDA c/o NCI Park Leopold
Business Centre
4th Floor
38/40 Square de Meeûs
Brussels 1000
Phone: 32 (0) 2 401 8758
Fax : 32 (0) 2 401 8762
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

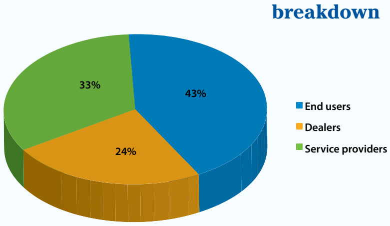
SINGAPORE
Marina Bay Financial Centre
Tower 1, Level 11
8 Marina Boulevard
Singapore, 018981
Phone: 65 6653 4170
isdaap@isda.org

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

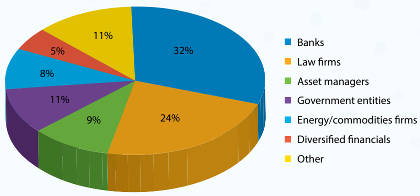
MEMBERSHIP

ISDA has over 850 member institutions from 67 countries. These members comprise of 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. Members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers.

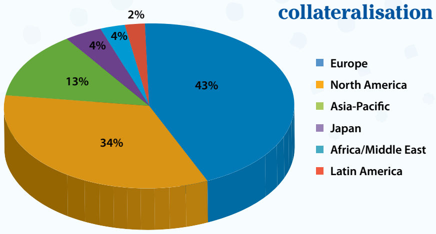
Membership breakdown



Types of members



Geographic collateralisation



Additional information regarding ISDA's member types and benefits, as well as a complete ISDA membership list, is available on the Association's website: http://www2.isda.org/membership/

BOARD OF DIRECTORS

OFFICERS

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

Richard Prager, Vice Chairman
Managing Director and Head of the Trading, Liquidity and Investments Platform
BlackRock

Keith Bailey, Secretary
Managing Director, Market Structure
Barclays

Diane Genova, Treasurer
General Counsel, Corporate and Regulatory Law
J.P. Morgan Chase & Co.

DIRECTORS

Yasunobu Arima
General Manager, Global Markets Planning Division
The Bank of Tokyo-Mitsubishi UFJ, Ltd.

Darcy Bradbury
Managing Director of D. E. Shaw & Co., L.P.
Director of External Affairs, The D. E. Shaw Group

Biswarup Chatterjee
Global Head Electronic Trading and New Business Development, Credit Markets
Citigroup Global Markets

John Dabbs
Global Head of Prime Derivatives Services
Credit Suisse

Bill De Leon
Managing Director, Global Head of Portfolio Risk Management
PIMCO

Elie El Hayek
Managing Director, Global Head of Fixed Income
HSBC Bank Plc.

John Feeney
Head of Pricing and Conduct Coordination, FICC
National Australia Bank Limited

George Handjinicolaou
Deputy Chief Executive Officer
ISDA

Kieran Higgins
Head of Trading & Flow Sales, Corporate & Institutional Banking
The Royal Bank of Scotland Plc.

Jonathan Hunter
Global Head of Fixed Income and Currencies
RBC Capital Markets

Benjamin Jacquard
Global Head of Credit
BNP Paribas

Dixit Joshi
Managing Director, Head of Institutional Client Group – Debt, and Listed Derivatives and Market Clearing
Deutsche Bank AG

Hideo Kitano
Managing Director, Head of Credit Trading Department, Head of Global Markets Structuring, Japan, Deputy Global Head of Structured Fixed Income
Nomura Securities Co.,Ltd

TJ Lim
Global Head of Markets
UniCredit

Christopher Murphy
Global Co-Head of FX, Rates & Credit
UBS Investment Bank

Ciaran O'Flynn
Managting Director, EMEA Head of Bank Resource Management
Morgan Stanley

Scott O'Malia
Chief Executive Officer
ISDA

Will Roberts
Head of Global Rates, Structured Credit Trading and Counterparty Portfolio Management
Bank of America Merrill Lynch

Guy Saidenberg
Global Head of Securities Division Sales Strats and Structuring
Goldman Sachs International

Kim Taylor
President of Global Operations, Technology and Risk
CME Group

Emmanuel Vercoustre
Deputy CEO & CFO
AXA Bank Europe

ISDA EXECUTIVES

OFFICE OF THE CEO

Scott O'Malia
Chief Executive Officer

George Handjinicolaou
Deputy Chief Executive Officer and Head of Europe, Middle East and Africa

Mary Cunningham
Chief Operating Officer

Steven Kennedy
Global Head of Public Policy

Katherine Tew Darras
General Counsel

SENIOR STAFF

Huzefa Deesawala
Chief Financial Officer

Corrinne Greasley
Chief Human Resource Officer

Dillon Miller
Chief Technology Officer

Clive Ansell
Head of Market Infrastructure and Technology

Roger Cogan
Head of European Public Policy

Audrey Costabile Blater, PhD
Director of Research

Karel Engelen
Co-head of Data, Reporting and FpML

Tara Kruse
Co-head of Data, Reporting and FpML

Mark Gheerbrant
Head of Risk and Capital

Marisa Irurre Bauer
Head of Conferences

Mary Johannes
Senior Director and Head of ISDA WGMR Initiative

Chris Young
Head of US Public Policy

Tomoko Morita
Senior Director and Head of Tokyo Office

Keith Noyes
Regional Director, Asia-Pacific

Nick Sawyer
Head of Communications and Strategy

Liz Zazzera
Head of Membership

ISDA® Conferences

Education has been part of ISDA's mission since the Association's inception. With over 100 conferences, seminars, training courses and symposia held each year, ISDA's highly qualified instructors continue to educate members and non-members globally on legal and documentation, clearing, trading, margin, reporting, risk and capital management, regulation and other related issues.

The new ISDA Documentation and Protocols: Getting Ready for Margining, Understanding the Margin Requirements for Non-cleared Swaps conference is scheduled to be held in several cities in each region over the coming months. This conference provides a complete overview of the new margin regimes for non-cleared derivatives, and compares US and EU rules regarding entities subject to the rules, cross-border and substituted compliance, and initial and variation margin requirements. The afternoon is dedicated to the ISDA Self-Disclosure template, which helps parties identify which jurisdictions' margin rules apply to their counterparty relationships, the new ISDA 2016 Credit Support Annex for Variation Margin and Credit Support Documents for Initial Margin, as well as an introduction to the ISDA 2016 Variation Margin Protocol, its planned structure and how it will operate.

An added bonus to most of the courses is the availability of continuing education credits. ISDA's educational efforts have been accredited by the New York Continuing Legal Education Board, the National Association of State Boards of Accountancy (NASBA) and other regional continuing educational organisations.

In addition to ISDA's regular courses, the Association will also hold regional updates during the third and fourth quarters in New York, London, Sydney, Asia-Pacific and Tokyo. These one-day conferences are intended to inform both members and non-members, regulators and the press of ISDA's regional work.

The ISDA Annual General Meeting (AGM) is ISDA's premier, members-only event. Every year, the ISDA AGM takes place in different financial centres around the world, rotating among the major economically developed countries. ISDA's 32nd AGM is being held on May 8-10, 2017 in Lisbon.

The current conference schedule is available on the ISDA website at www2.isda.org/conference. For additional updates on ISDA Conferences, please follow us on Twitter at @ISDAConferences.

@ISDAConferences

UPCOMING ISDA 2016 CONFERENCES AND EVENTS

Additional information regarding the 2016 ISDA Regional Conferences is available on the ISDA website at http://reg.isda.org.

UPCOMING CONFERENCE TOPICS

- Clearing Implementation Legal and Documentation
- Counterparty Risk Capital and XVA
- Cross Border Debate - Issues to watch in 2016 and Beyond
- Derivatives Products Overview
- Dispute Resolution in Derivatives – The ISDA Arbitration Guide
- Documenting Volatility Swaps using the 2011 Equity Definitions
- Foreign Exchange Derivatives: Advanced Topics
- FpML Training Courses
- Fundamentals of Derivatives
- Fundamental Review of the Trading Book
- Getting Ready for Margining
- ISDA Master Agreement and Credit Support Annex: Negotiation Strategies
- Legal Aspects of Clearing
- Overview of Capital Regulations
- Overview of OTC Derivatives Clearing
- SEC Reporting
- Symbology
- Tax Issues: Special Topics Affecting the ISDA Master Agreement
- Understanding Collateral Arrangements and the 2016 ISDA Variation Margin and Initial Margin Credit Support Documents
- Understanding the ISDA Master Agreements
- Upcoming EU Financial Legislation and the Effect on Commodity Market Participants

ADVERTISERS

Kramer Levin Naftalis & Frankel LLP 16
www.kramerlevin.com/derivatives/

London Stock Exchange .... Outside Back Cover
www.lseg.com

National Futures Association 16
www.nfa.futures.org

NetOTC 42
www.netotc.com

Purrington Moody Weil LLP 42
www.purringtonmoody.com

ISDA® Safe, Efficient Markets

2016 REGIONAL CONFERENCES

#2016isdaregionals
http://reg.isda.org/

Exhibitor & Sponsor Opportunities Available