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MARGIN RULES: **Light at the End** **of the Tunnel**

- Interview: Andrea Enria, EBA
- The Costs and Benefits of Single-name CDS



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Margin Time



BACK IN DECEMBER 2013, ISDA published its first whitepaper introducing the concept of the Standard Initial Margin Model (ISDA SIMM), in response to a margining framework for non-cleared derivatives published a few months before by the Basel Committee on Banking Supervision and the International Organization of Securities Commissions.

A little less than three years on – following hundreds of hours of meetings between industry participants, reams and reams of pages of detailed diagnostics and thousands of miles travelling the globe to liaise with regulators – the ISDA SIMM was adopted by the largest banks on September 1.

The methodology represents the latest step in ISDA's efforts to establish industry standards that reduce risk and drive efficiency. And it's no exaggeration to say the industry would probably not have been able to comply with the margin requirements without the ISDA SIMM – at least, not without using a standard table set by regulators, which would have resulted in much, much higher margin requirements.

Even with the ISDA SIMM, complying with the new rules was challenging enough, and the largest, phase-one entities reported significant bottlenecks in the run-up to September 1. In particular, work to set up custody accounts and sign the relevant documentation went right to the wire.

Attention is now turning to what will be an extremely demanding 2017. Europe is expected to implement its delayed phase-one margin rules early next year, followed by a March 'big bang' deadline for all in-scope entities to post variation margin. Other jurisdictions, including several in Asia-Pacific, are also expected to finalise their requirements and set 2017 implementation deadlines for the first phases. Given the sheer volume of work to meet a September 1 target that applied to a relatively small number of phase-one banks, the new deadlines for a much wider universe of participants are likely to stretch industry resources and capacity to the limit.

It goes without saying that ISDA will do what it can to help members and the industry at large to prepare for the rules. This includes new documents and protocols, and updates to the ISDA SIMM. Perhaps most importantly, ISDA will focus on informing derivatives users about what needs to be done – and the importance of starting their preparations sooner rather than later. ■

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A Derivatives Revolution



SEPTEMBER 1 MARKED the start of what is the most extensive transformation of derivatives markets in decades. From that date, the first wave of large banks had to start exchanging initial and variation margin on their non-cleared derivatives trades, a requirement that will expand to include a wider universe of derivatives users over time.

It's difficult to overstate just how big a change this is, and the work that's gone into preparing for it. The new margin rules touch virtually every aspect of the non-cleared derivatives space: pricing, funding, legal, IT, custody arrangements, and margin calculation, exchange and management. Despite the scale of change, there was relatively little time to prepare: US prudential regulators were the first to issue final rules at the end of October 2015, and others have come later – or, in some cases, have yet to emerge.

From ISDA's perspective, the focus has been to work with our members to develop new standards, documentation and infrastructure that responds to the changes. That includes multiple new credit support annexes (CSAs) for variation margin and for initial margin under various legal regimes, a self-disclosure letter that allows firms to exchange information on whether and when they will be subject to margin requirements in specific jurisdictions, and a protocol that will enable participants to make changes to derivatives documents to comply with variation margin requirements. None of that work could be completed until final rules were available.

Another big development is the launch of the ISDA SIMM, a standard initial margin model. This is a huge change. For the first time, a common, transparent and flexible model will be used to calculate initial margin across the non-cleared derivatives space. Work doesn't stop with the launch of the ISDA SIMM, however. We've set up a governance committee to monitor and assess application of the model, and to establish a process for updates and changes. The first iteration of the ISDA SIMM certainly won't be the last.

There are, of course, lessons to be learned from the September 1 implementation. The most obvious is that it takes time to put these changes into effect. As those countries that delayed implementation (Europe, Australia, Hong Kong, India and Singapore) look to finalise their rules and set revised implementation timetables, it's important the industry is given a realistic window in which to draft the necessary documentation and implement and

test systems. Equally important is the need to ensure market participants fully appreciate the scale of the task in preparing for implementation – and ISDA will continue to play a central role in informing members about the requirements and providing the tools for them to comply.

The introduction of the ISDA SIMM is a big step forward in creating common standards for margin calculation, but much more can be done in the collateral space. For too long, collateral management has been a process driven by Excel spreadsheets, email and fax. Now is the time to improve automation of this process – and ISDA has an ongoing role to play by developing additional operational standards.

For the first time, a common, transparent and flexible model will be used to calculate initial margin across the non-cleared derivatives space

In fact, we think there's a broader need to improve levels of automation and efficiency across the derivatives market. Much of the existing infrastructure is unwieldy, duplicative and inconsistent, and unsuited to dealing with the current, post-G-20-reform environment of electronic execution, clearing, trade reporting and margining. Our members are looking for more effective, less costly and less complex processes, using technology where possible to cut down on manual procedures.

ISDA is very much focused on guiding this change. Last month, we published a whitepaper that flagged the challenges with existing infrastructure and identified solutions. We focus on three areas: standardisation of data, processes and documentation. For instance, we think there's scope to upgrade ISDA's legal documentation by shifting to 'smart' contracts – a move that complements nascent work to explore distributed ledger and blockchain technologies.

The ISDA SIMM, the new CSAs and the variation margin protocol are just three prongs of this initiative. We will continue to work with our members to achieve consensus on best practice, documentation and standards to ensure our market continues to function as safely and efficiently as possible. ■

Scott O'Malia
Chief Executive Officer
ISDA

ISDA Publishes Academic Paper on Single-name CDS Market

A new academic literature review commissioned by ISDA shows that single-name credit default swaps (CDS) remain an efficient tool for hedging credit risk and can have a positive impact on the economy.

useful role in the global economy. The data indicates the CDS market has a positive impact on credit supply to reference entities, and provides useful information about the likelihood of future adverse

“The data indicates the CDS market has a positive impact on credit supply to reference entities, and provides useful information about the likelihood of future adverse credit events”

— Scott O’Malia, ISDA

Written by Christopher Culp and Andria van der Merwe, both research fellows at the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise, and Bettina Stärkle, a consultant at Risk Management Consulting Services, the paper summarises the empirical analyses from more than 260 published academic articles and working papers on the benefits and costs of single-name CDS.

The review shows that the single-name CDS market has a positive impact on the supply of credit to many reference entities underlying traded CDS, suggesting the ability of lenders to hedge their credit exposures can make them more willing to extend credit. The paper cites research that finds banks make larger and longer-dated loans to CDS reference entities.

The empirical evidence also suggests the availability of single-name CDS often results in lower borrowing costs for some corporate and sovereign reference entities, especially those that are lower risk and more transparent.

Another key finding is that single-name CDS provide useful information about the likelihood of future adverse credit events, including rating agency downgrades and defaults. This information is often available well before it is apparent in bond and sometimes equity markets.

“The empirical literature reviewed in this new paper supports the view that the single-name CDS market plays a

credit events,” says Scott O’Malia, ISDA’s chief executive. “We will continue to work with our members and the wider industry to support the functioning of this market.”

The paper also explores common criticisms of the single-name CDS market, including the claim that the instrument was a causal factor in the eurozone

sovereign debt crisis from 2010. The literature review finds little evidence to support this, with most research instead indicating that CDS spreads reflected underlying fiscal problems in the single currency system and global macroeconomic risk factors.

While the literature review suggests single-name CDS are a source of interconnectivity in the financial system, the empirical evidence does not support the claim that these products are a fundamental cause of market stress.

ISDA has worked to support liquidity in the single-name CDS market – for instance, by reducing the frequency with which single-name CDS roll to new on-the-run contracts, and coordinating a commitment to clear single-name CDS contracts by a group of buy-side firms. ■

See pages 36-37 for a Q&A with the authors of the paper.

EBRD Treasurer Appointed to ISDA Board

ISDA has announced the appointment of Axel van Nderveen, treasurer of the European Bank for Reconstruction and Development (EBRD), to its board of directors.

The appointment marks the first time a supranational institution has been appointed to the ISDA board, and is the latest step in an initiative to further broaden its scope and perspective by appointing members from diverse sectors of the market.

“Supranationals play an important role in strengthening economic growth and capital markets activity in both developed and developing markets, and are regular users of derivatives. We’re very excited to welcome Axel as our first ever supranational board director, and I’m sure his knowledge and experience of derivatives markets will be a huge benefit to both the

ISDA board and ISDA’s membership,” said Eric Litvack, ISDA chairman.

The appointment of van Nderveen follows an announcement in June that senior executives from a central counterparty and a futures commission merchant have joined the board. ISDA announced in January 2016 that it would expand the composition of the board to provide a broad perspective of derivatives market activity.

Prior to his current role, van Nderveen was deputy treasurer and head of asset and liability management at the EBRD from January 2001 to April 2004, having joined the EBRD in May 1995 as a portfolio manager. From August 1991, he worked in several fixed-income trading roles for BNP Paribas, and started his career as a bond salesman at Amro Amsterdam in May 1988. ■

New Paper Urges Greater Standardisation in Derivatives

A new ISDA whitepaper has identified a number of opportunities for greater standardisation and automation of derivatives trade processes, in order to achieve improved efficiency, reduced complexity and lower costs for market participants.

The new paper, *The Future of Derivatives Processing and Market Infrastructure*, comes in response to growing demand from market participants for new solutions to automate and streamline the significant reporting, trading, clearing and collateral management requirements that have emerged as a result of regulatory changes.

The paper highlights a number of challenges with existing structures and processes, and recommends several steps the industry can take to create efficiencies – in particular, by embracing opportunities for further standardisation. To support members address existing operational challenges, ISDA is working with stakeholders to develop a common view of an efficient market infrastructure and associated processes, which will enable the design of effective solutions. Furthermore, ISDA will work with its members to explore opportunities to leverage advances in technology, as well as facilitate collaboration and communication between market participants.

“The derivatives industry has become reliant on legacy infrastructures and processes that have been layered on top of each other over time. That might be the result of historical acquisitions, where the respective systems haven’t been fully integrated. More recently, the sheer pace of regulatory change has meant firms have been under pressure to tackle the next pressing deadline. The result is a derivatives infrastructure that is duplicative and based on incompatible operating standards, and this isn’t sustainable,” says Scott O’Malia, ISDA’s chief executive.

“Our members are looking for more effective, less costly and less complex processes, using technology where possible to cut down on manual processes. ISDA is helping to respond to these issues, and our whitepaper highlights a number of areas where the Association can work with the industry and regulators to improve trade processing through the

lifecycle. Our work on the implementation of non-cleared derivatives margin requirements is a good example of where industry standards have and will continue to improve operating efficiency, and there is further room for improvement in the collateral management space,” says O’Malia.

The paper highlights three areas where further standardisation can be achieved: documentation, data and processes.

ISDA has played a leading role in developing and promoting standard documentation, from the ISDA Master Agreement and the credit support annex to standard definitions and confirmation templates. These documents have typically allowed counterparties to negotiate various terms to reflect their differing needs and preferences, but the whitepaper recommends further standardisation to reduce complexity and operational challenges. ISDA will work with members to identify areas where there is a consensus for additional standard terms within the existing documentation.

The paper also identifies opportunities to transform ISDA’s legal documentation by developing ‘smart contracts’ that can

automatically execute intended lifecycle events.

The whitepaper further recommends the adoption of a standard, multi-use derivatives product identifier as a key requirement for reducing duplication and inconsistency. ISDA has published a number of principles papers that call for consistent reporting standards across borders and the adoption of globally consistent product and trade identifiers. Most recently, ISDA published a paper that sets out principles for the creation of a global product identifier. This comes on top of work to establish standard derivatives taxonomies and develop the Financial products Markup Language messaging standard.

The paper also calls on the industry to collaborate to agree on standards, processes and data elements for certain common processing tasks. As a first step, ISDA will draw up a development plan for the creation of these common domain models, and will work with regulators and the industry to identify and prioritise use cases. ■

The full paper can be read here: <http://isda.link/marketinfrastucturepaper>.



ISDA Focuses on Brexit Contractual Issues

An ISDA webinar held in the days after the UK voted to leave the European Union highlighted the legal considerations with regards to derivatives contracts – but stressed there would be little immediate impact on the legal certainty of existing agreements.

The June 29 webinar, featuring participants from ISDA and Linklaters, was heard by more than 4,000 ISDA members, and tackled a number of issues, including passporting rights, the impact on clearing, trade reporting and margining.

A key topic was the implications for ISDA Master Agreements where English law is chosen as the governing law – a topic tackled in more detail in a follow-up webinar on September 13. Depending on the ultimate shape of the exit, the speakers

pointed out that automatic mutual recognition of an English law choice might not be guaranteed post-Brexit. This means English court judgements will not automatically be recognised in European Union and European Economic Area countries, adding to the complexity and red tape of derivatives trades.

“It is clear there is a lot of work to do in the months and years ahead. There is a lot of uncertainty. It’s vitally important that we have a deliberate and organised process to provide financial, legal and operational certainty going forward,” says Scott O’Malia, chief executive of ISDA. ■

ISDA’s Brexit webinars are available here: <http://www2.isda.org/functional-areas/legal-and-documentation/uk-brexit/>.

ISDA Flags Implications of New Capital Measures

ISDA has published a series of responses to consultations issued by the Basel Committee on Banking Supervision that raise concern about the cumulative impact of new measures on bank capital requirements.

The responses cover the leverage ratio, net stable funding ratio, credit valuation adjustment (CVA) and internal models, among other things. In several cases, the responses include data collected via a series of industry impact studies, which suggest bank capital numbers are set for a significant increase and could impact the viability of certain businesses.

An example is the leverage ratio and its effect on client clearing businesses. A paper published in July by ISDA, the Global Financial Markets Association (GFMA), the Institute of International Finance (IIF), the Japan Financial Markets Council (JFMC) and The Clearing House (TCH) argued that segregated initial margin posted by clients is not a source of leverage for banks, as it cannot be used to fund their operations. Instead, it is meant to cover any losses by a defaulting client.

Despite this, the leverage ratio doesn't currently recognise this exposure-reducing effect, which means the capital required to support this

business is unnecessarily high. Based on data from 22 banks, leverage ratio exposure increases by 85% if the exposure-reducing effect of initial margin is ignored

"The leverage ratio as it stands makes the economics of client clearing extremely difficult for clearing members, which runs counter to the objective set by the Group-of-20 (G-20) nations to encourage central clearing," says Scott O'Malia, ISDA's chief executive.

"The reforms as they stand will likely increase costs for banks, and may negatively impact the liquidity of derivatives markets"

— Scott O'Malia, ISDA

In a separate paper, ISDA highlighted concerns about a move away from risk-sensitive capital measures in favour of non-risk-sensitive backstops, such as the leverage ratio and output floors. Over the past year, the Basel Committee has decided to restrict the use of internal models for credit risk-weighted assets, and to eliminate their use completely for the calculation of CVA capital and for operational risk.

The response, published in June by ISDA, GFMA, the International

Association of Credit Portfolio Managers and the JFMC, points out that internal models are much more sensitive to risk and better align with how banks manage their business. In comparison, 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, the paper argues: 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.

Another likely impact of a shift away from models is an increase in capital. That's because standardised approaches tend to be more conservative. For example, an industry study on the Fundamental Review of the Trading Book rules, conducted by ISDA and other trade associations, reveals a move from internal models to the standardised approach would result in a jump in capital of between 2 and 6.2 times, depending on the trading desk.

"The numbers we're seeing are a real concern. The reforms as they stand will likely increase costs for banks, and may negatively impact the liquidity of derivatives markets and the ability of banks to lend and provide crucial hedging products to corporate end users, pension funds and asset managers," says O'Malia.

The G-20, the Financial Stability Board and the Group of Governors and Heads of Supervision (the oversight body of the Basel Committee) have all stated that further refinements to the capital framework will not result in a significant increase in capital.

The consultation responses are available at: <http://www2.isda.org/functional-areas/risk-management/>.

ISDA Launches FRTB Data Initiative

ISDA has launched a new industry initiative aimed at facilitating compliance with the Basel Committee on Banking Supervision's Fundamental Review of the Trading Book (FRTB).

The initiative, launched in July, is aimed at reaching a common industry consensus on the interpretation of risk-factor modellability rules under the FRTB, and a shared set of business requirements to support risk-factor assessment and data capture.

FRTB rules stipulate that risk factors must meet certain requirements before they can be included in bank internal models. For example, a risk factor must have at least 24 observations per year,

with a maximum period of one month between observations. An industry impact study conducted by ISDA and other industry associations earlier this year found that non-modellable risk factors could account for 30% of the internal models approach capital charge.

As part of the effort, ISDA has established a working group to lead and facilitate industry efforts to develop standard data requirements. The working group will engage with both data vendors and regulators throughout the project.

Additional information regarding the FRTB can be found on the ISDA website at: <http://www2.isda.org/functional-areas/risk-management/>.

ISDA and IHS Markit Launch ISDA Amend 2.0

ISDA and IHS Markit have launched the latest version of ISDA Amend, which includes new features to allow market participants to implement new regulatory requirements, including the margining of non-cleared derivatives.

Users of ISDA Amend 2.0 will be able to access the ISDA Regulatory Margin Self-Disclosure Letter, which allows counterparties to exchange information on whether and when they will be subject to the margin requirements in specific jurisdictions. From later this year, users will also be able to access the ISDA 2016 Variation Margin Protocol, which enables firms to quickly and efficiently amend or set up documentation that complies with new variation margin requirements in certain countries.

Variation margin requirements will be rolled out to all entities under the scope of the rules from March 1, 2017.

As well as margin-rule-related functionality, ISDA Amend 2.0 enables market participants to inform counterparties about elections they have made under the ISDA Resolution Stay Jurisdictional Modular Protocol (ISDA JMP). The ISDA JMP was designed to help market participants comply with new regulations aimed at ensuring the cross-border enforceability of stays on contractual termination rights. The protocol includes separate jurisdictional modules, each designed to closely reflect the requirements in a particular country. The various jurisdictional modules contain

the operative provisions necessary for adhering parties to comply with applicable requirements.

“ISDA and IHS Markit have collaborated on ISDA Amend for over five years, and it has proved hugely successful in helping market participants gather and share data required by the Dodd-Frank Act and European Market Infrastructure Regulation. ISDA Amend 2.0 broadens that offering,” says Katherine Darras, ISDA’s general counsel. ■

Additional information on the ISDA Jurisdictional Modular Protocol and the ISDA 2016 Variation Margin Protocol can be found at: <http://www2.isda.org/functional-areas/protocol-management/open-protocols/>.

New Protocol Launched to Help with BRRD

ISDA has launched a new protocol to help market participants meet a European Union (EU) Bank Recovery and Resolution Directive (BRRD) requirement that applies to certain European entities.

The ISDA 2016 Bail-in Article 55 BRRD Protocol, published in July, will allow Dutch, French, German, Irish, Italian, Luxembourg, Spanish and UK entities to meet the requirements of Article 55 of BRRD. Article 55 obliges in-scope entities to include a contractual term in agreements creating any relevant liability and governed by the law of a third country to ensure their creditors agree to recognise any bail-in of those liabilities. Article 55 and related technical standards set out the detail and terms of what is required.

“Article 55 will require market participants to make important changes to their outstanding contracts, and the ISDA Bail-in Protocol will enable those changes to be made quickly and efficiently to ISDA Master Agreements and certain other contracts.

This is the latest in a series of ISDA initiatives to help market participants comply with new regulations intended to prevent banks from becoming too big to fail,” says Katherine Darras, ISDA’s general counsel.

The EU BRRD came into force on July 2, 2014 and was required to be implemented in member states by January 1, 2015. The bail-in tool was required to be implemented from January 1, 2016. The BRRD provides EU authorities with a variety of tools to deal with failing banks in Europe, including the ability to bail in certain liabilities. Regulatory technical standards on Article 55 were published in the Official Journal of the EU on July 8 and came into effect on July 28. ■

Read the protocol and frequently asked questions on Article 55 here: <http://www2.isda.org/functional-areas/protocol-management/open-protocols/>.

ISDA Publishes China Collateral Memorandum

ISDA has published a new memorandum that provides information on the legal issues involved in exchanging collateral with a counterparty in China, and analyses the enforceability of collateral rights contained in ISDA credit support documentation under Chinese law.

The publication of the ISDA 2016 China Collateral Memorandum follows the roll-out of new margin requirements for non-cleared derivatives in some jurisdictions on September 1. Developed by the Basel Committee on Banking Supervision and International Organization of Securities Commissions, the margin framework is

expected to be implemented in other jurisdictions over time.

“Agreement by global regulators to introduce margin requirements for non-cleared derivatives has focused attention on understanding the legal issues and documentation challenges when exchanging collateral with Chinese counterparts. This memorandum helps the market to understand the types of security interests recognised in China and analyses enforceability of the commonly used ISDA credit support documents, including title transfer arrangements, under Chinese law,”

says Keith Noyes, ISDA’s Asia-Pacific regional director.

This is the latest in a series of ISDA publications focusing on netting and collateral enforceability in China. It follows the China Netting Memorandum in 2014, which analysed an interpretation by the Supreme People’s Court of set-off rights under China’s Enterprise Bankruptcy Law, and considered restrictions under the bankruptcy law that may create barriers for close-out netting. It also suggested changes to the ISDA Master Agreement in order to improve the enforceability of the agreement in China. ■

Light at the End of the Tunnel

NEW MARGIN RULES for non-cleared derivatives came into force in the US, Japan and Canada on September 1, following years of preparation that included the drafting and negotiation of new collateral documents and the development of a new standard industry margin model. But this is just the start of a four-year journey that will eventually see all entities under the scope of the rules post initial and variation margin on all their non-cleared derivatives.

Firms are already looking to draw lessons from September 1 to help smooth the path for the next set of deadlines. First up will likely be the rollout of the delayed phase-one implementation in Europe – possibly as early as the start of next year. That will be followed by the March 1, 2017 deadline for all entities subject to the rules to post variation margin. This ‘big bang’ implementation will involve thousands of counterparties rewriting thousands of collateral documents at once – and it’s likely to stretch the resources of the industry to the absolute limit.

One of the big lessons from September 1 is the need for sufficient time to properly draft, negotiate, implement and test the various documents, models and processes necessary to comply. This is a particular issue given some jurisdictions have yet to publish final rules – or, in the case of Asia-Pacific, even release detailed proposed rules.

This issue of *ISDA Quarterly* focuses on the new margin regime. Our first article looks at the efforts to prepare for the September 1 deadline, and highlights the bottlenecks that emerged in the run-up to the start date (see pages 12-15).

Preparing for September 1 was a challenge, but it would have been all but impossible without the development of a standard initial margin model, the ISDA SIMM. The second article looks at the next steps for the ISDA SIMM and its ongoing governance (see pages 16-18), while the third examines how some third-party vendors are incorporating the ISDA SIMM into their margin offerings (see pages 19-21).

Alongside ISDA’s efforts, a whole ecosystem of vendors and service providers are springing up to help derivatives users

automate their collateral management processes. Offerings stretch from portfolio reconciliation to margin calculation to collateral optimisation. Driving automation and creating efficiencies in the collateral space will become increasingly important: with the number and frequency of margin calls set to rise exponentially, it will no longer be viable to rely on phone and fax (see pages 22-23). ■



Meeting the First Phase

The implementation of new margining requirements for non-cleared derivatives began on September 1, but final rules had only been published months earlier in some countries, leaving the industry with little time to prepare

FOR THOSE INVOLVED in derivatives operations at the large banks, the week leading up to September 1 was one of late nights, hastily assembled meetings and last-minute legal negotiations. The aim was to be in a position to meet new regulatory requirements to exchange initial and variation margin on non-cleared trades with other large derivatives users – the first of a series of margin-related deadlines stretching out for four years. While the September 1 deadline was largely met, preparations went to the wire – and participants say there are important lessons that need to be learned as the industry turns its attention to the next set of deadlines, which involve a much deeper pool of users.

“This has been the antithesis of what a textbook project should be,” says Karen Newton, global head of collateral management at Credit Suisse. “Whereas typically, you would start off by understanding the requirements and then entering into the design, build, test and implementation phases, we recognised early on that we couldn’t wait for final rules before we

started our build, which added extra expense and resources to the project.”

Reports of rushed preparation with little time to test processes and systems might come as a surprise, given this project dates back as far as 2011, when a working group overseen by the Basel Committee on Banking Supervision and the International Organization of Securities Commissions was tasked by the Group-of-20 nations to develop standards to mitigate the risk in non-centrally cleared derivatives.

That committee – the Working Group on Margining Requirements (WGMR) – published its global policy framework in September 2013, but transposing those rules into national law has taken time, and final rules have yet to materialise in a number of key jurisdictions, including Europe, Australia, Hong Kong and Singapore. For the few countries that began implementation as planned on September 1 – the US, Canada and Japan – final rules had only been available for a matter of months.

“The new margin rules involve unprecedented change and affect virtually all aspects of derivatives

AT A GLANCE

The largest derivatives users began exchanging initial and variation margin on their non-cleared trades from September 1, under rules that took effect in the US, Japan and Canada.

The new margin regime represents one of the biggest changes to have occurred in the derivatives market for decades, requiring firms to make major changes to virtually all aspects of their derivatives operations.

Nothing could be completed until final rules were published by national authorities. US prudential regulators were the first to publish final rules in October 2015, but others emerged later – less than six months before the start date in the case of Japan.

This meant a huge amount of complex implementation – including work to finish drafting new collateral agreements, and efforts to implement, test and seek regulatory approval for new margin models – had to be completed in a matter of months.

The next phases of implementation are scheduled for early next year, and there are important lessons that can be learned – in particular, the fact it takes time to adapt or agree the required documentation for all counterparty relationships.

“The new margin rules involve unprecedented change and affect virtually all aspects of derivatives trading”

— Scott O’Malia, ISDA

trading. Despite the scale of change, there has been little time to prepare, as final rules from domestic regulators were published relatively late in the process. ISDA and the industry have worked extremely hard to make the necessary overhaul to existing IT, documentation and operations in order to target the September 1 deadline,” says Scott O’Malia, chief executive of ISDA.

The challenges in meeting the September deadline largely stem from the compressed timetable for implementation. In March 2015, the WGMR announced a nine-month delay to the start date for phase-one firms, from December 2015 to September 2016, widely perceived to be a response to the fact that national regulators had not published final rules.

Despite that reprieve, it took several more months until those rules started to filter through, meaning market participants had to either begin their preparations without knowing the exact rules they were building for, or wait for further clarity and risk running out of time.

In the US, prudential regulators published their final rules in late October 2015, followed by the Commodity Futures Trading Commission (CFTC) in December. Regulators in Canada finalised requirements in February 2016, while Japan published its rules at the end of March. The CFTC followed up with its cross-border margin rules on May 24.

“From the outset, ISDA maintained that we would need a year between finalisation of the rules and the first go-live date to allow us to properly prepare all of the documentation, models and processes, but we didn’t get that by any stretch. The lack of coordination between jurisdictions has added to the complexity of the process, because it means everything has to be retuned as new rules are published,” says Eric Litvack, chairman of ISDA.

Preparations were complicated by an announcement by the European Commission (EC) on June 9 that final European rules would not be ready in time for a September 1 start date for phase-one banks. This threw what had previously been a globally coordinated effort into the air, and meant firms would face the prospect of implementing at different speeds in different jurisdictions

– as well as creating cross-border complexity in implementation (See *IQ: ISDA Quarterly* July 2016, pages 26-29).

The EC subsequently informed the European Supervisory Authorities (ESAs) on July 28 that it would make a series of amendments to the final draft regulatory technical standards they had published on March 8. On September 8, the ESAs published an opinion rejecting several of those amendments – although the EC is not obliged to accept that opinion, and the requirements are currently expected to be rolled out for phase-one banks quickly after finalisation of the rules, perhaps as early as the start of next year.

“We were working right up to the wire on August 31, with many late nights and working weekends”

**— Karen Newton,
Credit Suisse**

“Given the EC didn’t receive the final draft RTS until March, it was always going to be difficult to get the rules in place and approved by the European Parliament and Council of the European Union by September 2016 – compressing it into that timeline might have itself been risky for something so complex. But the delay obviously means misalignment in timing between jurisdictions,” says Roger Cogan, head of European public policy at ISDA.

The postponement in Europe was subsequently followed by Australia, Hong Kong and Singapore, which announced on August 22 that they would defer implementation until next year. Meanwhile, the Reserve Bank of India, which had issued a discussion paper on margin requirements in May 2016, declared on September 1 that it would also postpone implementation to align with other countries and allow the industry more time to prepare. Those countries have not published final rules or set new implementation timetables.

Without finalised rules, much of the detailed implementation and testing cannot begin. For those jurisdictions that published their requirements, that effort had to be squeezed into a relatively short window. That includes work to finish

drafting and then negotiating new collateral agreements that comply with the new rules. ISDA led this initiative, and published the first margin-rule-compliant document in April – a credit support annex (CSA) for variation margin under New York law. Other documents have followed since, including a series of CSAs for initial margin targeted at phase-one entities at the end of July (see Table 1).

“The regulators have been very aware of the varying state of readiness across the industry as a result of the tight deadlines, but I’m not sure they always appreciate that we cannot write legal documents until we have final rules. With most rules published so late in the process, this was always going to be a very rushed implementation,” says Nick Steele, managing director and head of collateral optimisation at Barclays.

A number of other operational hurdles had to be cleared before the deadline in order for collateral to be posted in compliance with the rules. This includes implementing and obtaining regulatory approval for initial margin calculation models. ISDA took the lead in developing a standard initial margin model called the ISDA SIMM in order to reduce the potential for disputes that could occur if everyone used their own models.

In designing it, the ISDA working group looked to standardise what it could to reduce to a minimum the inputs required, and to help ensure consistency in implementation (see pages 16-18). Despite being developed centrally, individual firms were required to obtain approval to use the model from US prudential regulators ahead of September 1 – and those approvals only began to emerge in late August.

“Calculation models have to be approved at the firm level rather than the industry level, so banks have had to demonstrate conceptual soundness, back-testing and validation of the ISDA SIMM. They can incorporate ISDA’s work into their firm-level approval process, but since model approval is a firm-level requirement rather than an industry level requirement, each firm has to meet the approval requirements of its regulator,” says Mary Johannes, senior director and head of the WGMR initiative at ISDA.

While obtaining model approval and negotiating CSAs with other phase-one

counterparties kept firms working right up until the September 1 deadline, one of the biggest bottlenecks in the run-up to the start date centred on the opening of new third-party custodial accounts – required in order to meet segregation rules for initial margin.

“It will be important now to draw the lessons from the first implementation wave”
— *Eric Litvack, ISDA*

While only 20 or so large derivatives firms were caught by the first-wave implementation in the US, Japan and Canada, it required the setting up of hundreds of agreements for their various subsidiaries. And with a relatively small number of custodians, it meant some firms struggled to set up custody accounts for all their counterparty relationships in time.

“A new industry standard agreement between counterparties and the custodians that hold initial margin had to be created, heavily modifying existing custodian templates in order to comply with regulations. Similar contracts had only ever been executed on a bespoke basis before. The industry had to put hundreds in place in a very short period of time to reflect the types of collateral permitted under the rules, which introduced a high level of complexity,” says Barclays’ Steele.

Recognising the blockage that had occurred, the CFTC issued no-action relief during the course of September 1, giving dealers until October 3 to comply with the custodial requirements. However, the reprieve covered only that specific component of the margin rules relating to custodians, and, without any broader relief from US prudential regulators, it had little impact on most dealers.

“Our aspiration had been to have all of our documentation signed-off with our counterparties and custodians three weeks prior to September 1. But in reality,

we were working right up to the wire on August 31, with many late nights and working weekends. Even then, our readiness to trade with the full set of products and counterparties only evolved gradually after the deadline,” says Credit Suisse’s Newton.

The bottlenecks cleared fairly quickly in the days following September 1, as additional custodial arrangements were put in place and dealers secured the necessary sign-offs to trade with a broadening range of counterparties and products. But with further deadlines now looming, there are concerns over the planned extension of the rules in the coming months.

Under the phase-in schedule set out in the WGMR framework, all covered entities are required to exchange variation margin on their non-cleared derivatives trades from March 1, 2017. Also expected early next year is the deferred phase-one rollout in Europe, which could occur before the March 1 deadline. Australia,

Hong Kong, India and Singapore are anticipated to aim for a 2017 target for deferred phase-one implementation, and several other jurisdictions are likely to publish their rules. It could mean an exceptionally busy start to 2017 – but it’s not yet clear exactly what will be implemented and when.

Given the difficulties encountered in meeting the first deadline, there is clearly potential for further bottlenecks and interruptions to trading in the run-up to the March 2017 ‘big bang’ implementation of variation margin rules. ISDA has published a variation margin protocol that will enable counterparties to make the necessary changes to documentation to comply with variation margin rules, but implementing the requirement in one go remains a worry.

“The variation margin start date in March is an enormous concern, because it involves a much larger volume of documentation to be re-drafted and finalised than we had to deal with

LEARNING THE LESSONS FROM SEPTEMBER 1

It’s still early days after the September 1 launch date for the largest phase-one banks, but some lessons are starting to emerge. First and foremost, it has become clear that it takes time to adapt or agree the required documentation for all counterparty relationships.

The next big deadline for the margin rules is March 1, 2017, when all entities under the scope of the rules will be required to post variation margin on their non-cleared derivatives trades. This will require large numbers of firms to make changes to their outstanding collateral agreements at once.

Those countries that delayed implementation are also likely to roll out their rules for phase-one firms – although the timetable is not yet clear. If combined with deferred phase-one rollouts in Europe, Australia, Hong Kong, India and Singapore, it could test implementation capacity.

ISDA is coordinating with regulators and market participants to make them aware of the challenges, and to highlight the importance of having certainty in the timeline and a realistic implementation window. In addition, the Association is working to increase market education to raise awareness and to help firms implement the March 2017 requirements.

A number of initiatives are under way to help market participants comply, including the launch of the ISDA Variation Margin Protocol, which will enable counterparties to quickly and efficiently make the necessary changes to outstanding documentation. This protocol may be expanded (or additional protocols launched) if new jurisdictions that finalise their rules provide enough time between finalisation and implementation dates. ISDA is also planning to expand a self-disclosure letter that enables market participants to communicate whether and when they will be subject to margin rules in specific jurisdictions.

for the September deadline. Banks will have to prioritise their customer base, which will mean some buy-side firms will find themselves de-prioritised with limited access to certain products,” says Newton.

Once the variation margin hurdle is cleared, the phase-in of initial margin requirements is set to continue until 2020, gradually bringing in a broader

universe of firms. In the long term, the non-cleared derivatives market will naturally have to adjust to this new way of operating. But the priority for now is to make sure the next phase of the project is executed as smoothly as possible.

“The industry has worked very hard to get to this point, so it’s unfortunate that ultimately the implementation calendars diverged and there was very

little time to fully test the end-to-end processes prior to going live,” says Litvack. “It will be important now to draw the lessons from the first implementation wave. As we move forward, participation in collateral posting will broaden at each phase, so there is a real concern over the potential for normal business to be interrupted if counterparties are not ready.” ■

TABLE 1: ISDA CREDIT SUPPORT DOCUMENTATION

Title / Description	Document
<p>ISDA 2016 Variation Margin Protocol</p> <p>The protocol enables counterparties to quickly and efficiently put contractual documentation in place with multiple counterparties in order to implement new variation margin requirements, or to make changes to existing collateral agreements to bring them into compliance. An FAQ is also available.</p>	<p>http://isda.link/isdavmprotocol</p> <p>FAQ: http://isda.link/vmprotocolfaq</p>
<p>ISDA Regulatory Margin Self-Disclosure Letter</p> <p>The ISDA Regulatory Margin Self-Disclosure Letter is intended to assist market participants with the exchange of the necessary information to determine if, and when, their trading relationship will become subject to regulatory margin requirements for non-cleared derivatives. The June 30, 2016 version covers Canada, the European Union, Japan, Switzerland and the US.</p>	<p>http://isda.link/selfdisclosureletter</p>
<p>ISDA Credit Support Documentation for VM and IM</p> <p>ISDA has published multiple new credit support documents for variation and initial margin.</p> <ul style="list-style-type: none"> • ISDA 2016 Phase One Credit Support Annex for Initial Margin (New York Law) • ISDA 2016 Phase One Initial Margin Credit Support Deed (English Law) • 2016 Phase One Credit Support Annex for Initial Margin (Japanese Law) and Trust Scheme Addendum • ISDA 2016 Credit Support Annex for Variation Margin (New York Law) • ISDA 2016 Credit Support Annex for Variation Margin (English Law) • ISDA 2016 Credit Support Annex for Variation Margin (Japanese Law) • Recommended Amendment Provisions for the ISDA New York Law 2016 Phase One Credit Support Annex for Initial Margin with respect to Japanese Securities • Recommended Amendment Provisions for New York Law and English Law Credit Support Annexes for Variation Margin with respect to a Japanese Party 	<p>http://isda.link/creditsupportdocs</p>
<p>ISDA Legal Opinions</p> <p>ISDA is updating its library of legal opinions to reflect new regulatory requirements and the newly published ISDA documents.</p>	<p>http://www2.isda.org/functional-areas/legal-and-documentation/opinions/</p>

Setting a New Standard

The ISDA SIMM is available for any firm to licence and use for calculating initial margin requirements under the new rules for non-cleared derivatives. With the design process complete, thoughts are now turning to the ongoing governance of the model

ON SEPTEMBER 1, the years of work and unprecedented industry cooperation that went into the construction of the ISDA Standard Initial Margin Model (ISDA SIMM) came to fruition as the largest, so-called phase-one banks implemented new initial margin requirements for non-cleared derivatives. Despite the last-minute arrival of model approvals from US prudential regulators for many firms, the ISDA SIMM was widely adopted and successfully implemented. But that was only the initial step. Regulators have asked for phased updates to the methodology as a condition for continuing to use the ISDA SIMM for certain product types, while a series of new implementation dates are looming for other entities.

The margining of non-cleared derivatives is an unprecedented change – and challenge – for the derivatives industry. By the time implementation is expected to be complete in September 2020, all covered financial counterparties with non-cleared derivatives portfolios above a certain threshold will be posting initial margin on all non-cleared trades within the scope of the rules. Those firms will also be posting variation margin on those transactions from March 2017.

When the first drafts of these new requirements were introduced in 2012, following a commitment to non-cleared

margining from the Group-of-20 nations in 2011, the industry quickly realised that a common, standardised model would be an important component of the implementation efforts. If every firm developed its own model, then counterparties would be unable to agree on the initial margin that needs to be exchanged, leading to disputes.

An industry working group was established in 2013, and quickly agreed a set of criteria to govern the development of the methodology. In order to be widely adopted, it would need to be simple, transparent and cost-effective. And to meet the tight timelines set for margin exchange, it would also have to be quick to calculate.

The ISDA SIMM was born from these design principles. It was never designed to be a Ferrari – a bespoke, highly-tuned machine for a select group of users. It's more of a Honda Civic – an efficient, durable vehicle that anyone affected by the new rules can use.

As a foundation for the ISDA SIMM, the industry working group settled on a methodology based on the sensitivity based approach adopted by the Basel Committee on Banking Supervision as part of its Fundamental Review of the Trading Book. This was adapted to meet the one-tailed 99% confidence interval over a 10-day horizon requirement set by regulators.

In keeping with the necessity for simplicity, the ISDA working group looked to

standardise what it could to reduce the inputs required to a minimum and to help ensure consistency in implementation. To calculate initial margin, users would need to determine their own sensitivity inputs for specified risk factors. These are then mapped to pre-defined risk buckets, for which the ISDA SIMM sets pre-determined risk weights (see Table 1 for documentation on the methodology).

AT A GLANCE

The largest banks adopted the ISDA SIMM for their initial margin calculations on September 1, as new margining rules for non-cleared derivatives came into force in the US, Canada and Japan.

The ISDA SIMM can be licensed for use by any market participant, and is intended to minimise the potential for disputes in the calculation of initial margin between counterparties.

Following the first-phase adoption, attention is now turning to ensuring the model continues to meet regulatory requirements via a transparent, inclusive governance framework to oversee the review and update of the methodology.

To achieve consensus on the mapping of sensitivities to the credit and equity risk buckets, ISDA appointed ICE Benchmark Administration (IBA) to run a crowdsourcing utility. This service aggregates and compiles risk data submitted by participating users to enable consistent implementation of the ISDA SIMM.

ISDA also set a fixed correlation structure to recognise netting and diversification within each asset class. While back-testing conducted during development showed that the initial margin outputs generated by different counterparties were within an accepted tolerance, there are potential edge cases where larger divergences could occur – for instance, discrepancies could emerge in concentrated portfolios in which sensitivity inputs are not sufficiently aligned.

In response, ISDA has devised a process to deal with these kinds of methodology and implementation issues. A number of companies are also launching products and services that complement the ISDA SIMM, including portfolio reconciliation, which will reduce the potential for unmatched trades.

While the methodology was developed centrally by an industry working group, each firm is individually required to manage its implementation. The approval process differs from jurisdiction to jurisdiction, but phase-one entities subject to US rules were obliged to obtain approval from US prudential regulators and/or the National Futures Association prior to using the ISDA SIMM on September 1. Those approval letters began to filter through in August, but are understood to have set a number of conditions for continued use by banks in relation to certain product types.

These and other changes will be made through the ISDA SIMM governance framework. This is a vital part of ongoing ISDA SIMM development, and comprises the ISDA SIMM Governance Forum, which is open to all ISDA members that are subject to the initial margin requirements, and the ISDA SIMM Governance Executive Committee, which will make the ultimate decisions about what changes need to be made to the ISDA SIMM based on recommendations by the forum.

Along with making the changes required by regulators, the ISDA SIMM Governance Committee will monitor and assess the model and establish a process for updates and recalibrations. Without this oversight, the model could become uncoupled from market realities and produce inaccurate margin numbers.

As part of that, the governance committee will conduct an annual recalibration of ISDA SIMM parameters and an annual methodology review to consider recommendations from users of the model. This

review will address any developments in financial markets or modelling technology that affects the workings of the ISDA SIMM, changes to risk factor definitions and any expansion in scope of the model. It will also examine reported margin shortfalls and reconciliation issues received by ISDA over the previous year.

This is an important aspect of the governance framework. By encouraging users to report reconciliation difficulties and material margin shortfalls relative to a performance benchmark

DEVELOPING STANDARD DOCUMENTATION

The implementation of new margin rules for non-cleared derivatives would not be possible without new documentation that complies with the requirements in each jurisdiction. This massive task has had to be compressed into a short time frame given the small window between finalisation of the rules by national regulators and implementation – and will continue to pose a huge challenge given some jurisdictions haven't yet published final requirements.

ISDA has already published a variety of new credit support documents for variation margin and for initial margin under English, New York and Japanese law. The Association has also published a self-disclosure letter for certain jurisdictions that enables parties to exchange information to determine which rules apply to them, whether they are subject to variation margin, initial margin or both, and when the requirements apply.

Counterparties then need to revise all outstanding collateral agreements with all counterparties under the scope of the rules. ISDA has responded to this by publishing a protocol that will enable participants to quickly and efficiently revise contractual documentation with multiple counterparties in order to implement the scheduled March 1 variation margin deadline. This will be available on ISDA Amend, an online platform developed by ISDA and IHS Markit, before the end of the year.

The protocol offers three options, reflecting the diversity of preferences in the market. Parties can put in place a new credit support annex with limited standardised terms that comply with the rules. If they already have collateral documentation in place, then there are two additional possibilities: the 'amend' option applies the necessary changes to the documentation to comply with the rules; while 'replicate and amend' allows users to create a replica of the existing agreement, which is then amended and used for new trades only.

But even with the protocol, compliance with the March 1, 2017 deadline will be hugely challenging from a resource and capacity perspective, given it will involve repapering agreements with thousands of counterparties. While initial margin requirements will be phased in over a period of four years, variation margin rules will come into force for all entities subject to the rules in a 'big bang' launch.

This timeline will be particularly challenging for those jurisdictions that have yet to publish final rules – especially those in Asia, where detailed proposed requirements have also not emerged. Once final rules are published, the self-disclosure letter will need to be expanded and the protocol will need to be developed and built into ISDA Amend to cater to those requirements. Thousands of counterparties in the region will then need to apply those changes to existing documentation. A short window between publication of the rules and implementation would make it all but impossible to develop an industry solution.

or periodic back-testing, ISDA is able to monitor and assess SIMM performance across the industry and make any necessary adjustments. Along with the annual review, the governance committee will consider these issues on a quarterly basis. If the reports reveal persistent and material shortfalls that are common to ISDA SIMM users, then it could trigger an intra-year modification of the model.

Once agreed by the committee and vetted by regulators, any modifications

to the ISDA SIMM will be published to make them accessible to all users and national authorities. Users will need to implement the revised methodology by an effective date that will take into account implementation difficulties and margin impact. A process will be put in place to facilitate an orderly adoption of the new SIMM rules.

This type of review will be an ongoing process. To help cover annual maintenance and recalibration costs, ISDA has established an annual licensing fee for

SIMM users, which itself will be reviewed on an annual basis.

The launch of the ISDA SIMM represents an unprecedented change for the derivatives industry. For the first time, a common, transparent and flexible model will be used to calculate initial margin across the non-cleared derivatives space. But with annual and possibly intra-year recalibrations, responses to shortfall and reconciliation issues reported by users and regulatory requests, the ISDA SIMM will continue to evolve to meet demands. ■

TABLE 1: ISDA SIMM DOCUMENTATION

Title / Description	Document
ISDA SIMM™ Methodology Describes the methodology for calculating initial margin for non-cleared derivatives under the ISDA SIMM™.	(Final: August 31, 2016) http://isda.link/simmmethodology
ISDA SIMM™ Methodology: Risk Data Standards Aims to set complete standards for the details of risk calculation and data exchange, giving additional descriptions and clarifications of the risk factors.	(Draft: August 24, 2016) http://isda.link/simmriskdatastandards
ISDA SIMM™ Governance Framework Sets out the principles under which the ISDA SIMM™ will operate and a transparent, consistent process for reviewing and updating the methodology.	(Draft: July 25, 2016) http://isda.link/simmgovernance
ISDA SIMM™ FAQ	(Draft: July 27, 2016) http://isda.link/simmmafaq
ISDA SIMM™ Cross-Currency Swap Treatment Summarises industry best-practice recommendations for the treatment of cross-currency swaps in the ISDA SIMM™.	(Draft: May 2016) http://isda.link/simmcrosscurrency
ISDA SIMM™: From Principles to Model Specification, Counting Down to the Effective Date of the Rules Provides the context and rationale for the ISDA SIMM™ specification.	(Draft: March 3, 2016) http://isda.link/isdasimmspecification
ISDA SIMM™ Crowdsourcing Utility User Guidelines – Data Submission, Determination and Output of Results The crowdsourcing utility, operated by ICE Benchmark Administration Ltd, will aggregate and compile risk data to enable market participants to implement the ISDA SIMM™ consistently.	(Draft: August 24, 2016) http://isda.link/crowdsourcingutility Press Release: http://isda.link/iba
ISDA SIMM™ Licensing Programme Any market participant will be able to licence the ISDA SIMM™ to calculate initial margin for its own or its clients' non-cleared derivatives transactions. Third-party vendors will also be able to licence the ISDA SIMM™ for proprietary services or products.	http://isda.link/simmlicensing

Licence to SIMM

Several technology vendors are licensing the ISDA SIMM to offer initial margin calculation services as margining requirements extend beyond the largest banks next year

AMONG THE GAMUT of industry initiatives ISDA has spearheaded over the past 30 years, the Standard Initial Margin Model (ISDA SIMM) looks set to take its place alongside the ISDA Master Agreement and Credit Support Annex as another indispensable tool that ensures derivatives can be traded in an orderly, consistent and efficient manner.

The ISDA SIMM has been several years in the making and when the first phase of initial margin rules was introduced on September 1, its deployment meant dealers were calculating margin using a consistent and transparent methodology that complies with the new requirements and reduces the potential for margin disputes.

As the rules extend to a broader swath of market participants over the next four years, smaller entities are likely to look to technology vendors to fulfil their calculation, validation and margin posting requirements. Several vendors are already pitching such services, while others are developing products for active marketing next year.

"In the US, firms need to gain approval prior to using the ISDA SIMM, which means they have to fully understand how the model works and be able to validate it internally. Supervisors in other jurisdictions are also expected to demand a level of knowledge from firms that is commensurate with their business and sophistication," says Panagiotis Koumantanos, chair of the ISDA SIMM governance forum.

"Although the ISDA SIMM is designed to be simple and accessible to a wide range of market participants, smaller firms may decide to use vendor solutions for their implementation. We expect a vendor ecosystem to start developing around the ISDA SIMM for different applications," he adds.

Under ISDA's licensing programme, any market participant is able to licence the SIMM to calculate initial margin, while third-party vendors can also obtain a licence and incorporate the model into their own products and services. An annual licensing fee is paid to ISDA to cover maintenance and recalibration costs to ensure the model remains compliant with changing regulations.

Among the third parties that are implementing the ISDA SIMM are a range of vendors and start-ups, including



AT A GLANCE

The ISDA SIMM was deployed on September 1, and was widely adopted by phase-one entities.

Several service providers are using the ISDA SIMM and plan to offer margin-related services to clients.

These services include margin calculation, validation, analysis and margin optimisation.

AcadiaSoft, Bloomberg, CME Group, OpenGamma and Quantile Technologies. Each firm has its own strategy for offering SIMM-based services to market participants, and each is looking to target a particular sector of the industry.

Boston-based AcadiaSoft, for instance, has sought to build a community of users that access its technology in different

ways to calculate and exchange margin. Owned by 16 top-tier banks and market infrastructure operators, including ICAP, Euroclear and the Depository Trust & Clearing Corporation, AcadiaSoft launched its initial margin calculation and reconciliation service for non-cleared derivatives in collaboration with ICAP-owned TriOptima in February 2016.

"Many of the large banks are doing the calculations themselves, but they will use our service for validation. In that situation, we will do the calculation for both parties and then reconcile the inputs, identifying any differences so that these can then be addressed and resolved," says Mark Demo, regulatory product director at Acadiasoft.

Bloomberg is also positioning itself as a provider of ISDA SIMM calculation services, having launched a collateral management product for cleared and non-cleared derivatives earlier this year. The firm initially incorporated the standardised matrix look-up method for initial margin, and is in the process of launching the ISDA SIMM on the platform. Bloomberg believes there is a need to integrate margin calculation tools into the normal workflow of traders, as well as middle- and back-office staff.

"Front-office traders often check what the incremental initial margin would be prior to doing the trade and consider it in making their choice of trading venue or clearing house, while middle-office staff are increasingly concerned with managing capital and XVA. Initial margin increases the cost of trades, and everyone needs to keep tabs on that through the lifecycle of the trade," says Harry Lipman, global derivatives product manager in counterparty risk at Bloomberg.

Bloomberg anticipates rising demand for a clear workflow and strong communication from the front to back office across a single platform as the margin rules are phased in over the coming years and a broader set of counterparties is required to calculate and post initial margin.

"In the past six months, we have seen stronger interest from parts of the dealer and dealer affiliate community that will be affected by the next phase of the

rules, or those that have been delayed in Europe and are now anticipating the first phase early next year. They still have a little time, but they need to get the technology in place soon," says Lipman.

Another provider is OpenGamma, which was founded in 2009 and has maintained a focus on risk management technology. Recognising that most market participants will need to manage both cleared and non-cleared exposures in the future, OpenGamma offers margin analysis and calculation services for both product sets from a single platform, allowing users to forecast and optimise margin requirements across multiple clearing houses.

"Although the ISDA SIMM is designed to be simple and accessible to a wide range of market participants, smaller firms may decide to use vendor solutions for their implementation"

— Panagiotis Koumantanos, ISDA

The vendor is using the ISDA SIMM for the non-cleared part of the service, and says it has worked with several of the large dealers to carry out the necessary back-testing and benchmarking they require to secure regulatory approval to use the model. In the future, it expects to target mostly second- and third-tier banks and buy-side firms that may not be sufficiently resourced to use the ISDA SIMM themselves.

"Europe is in the process of implementing mandatory clearing as well as bilateral margining at the moment, so there are several projects converging at once. But we expect firms to choose the providers that will help them to implement the margin rules fairly soon and are ready to engage with market participants," says Mas Nakachi, chief executive of OpenGamma.

While some vendors expect the bulk of their initial-margin-related business to be taken up with calculating or validating the ISDA SIMM on behalf of their clients, others see the calculation as a starting point for what they will offer. Quantile Technologies, which was established in 2015 by two former Morgan Stanley risk managers, has a unique strategy to provide risk-reducing intelligence to banks and other financial institutions.

Its technology, which comprises optimisation algorithms, takes in portfolio information from market participants and recommends transactions to reduce counterparty risk to other Quantile clients, leading to commensurate reductions in margin and capital requirements. Quantile would use the ISDA SIMM to establish a base level of margin for each party, then analyse the portfolios, generating transaction proposals designed to reduce risk between parties and leading to a lower output quantum of margin.

"As a licensee of the ISDA SIMM, we will clearly need to use the model, but our core business is not about providing calculation services to firms that can't do it themselves. Rather, it is about reducing the risks between the banks and buy-side firms generating the SIMM numbers, resulting in reduced margin requirements," says Stephen O'Connor, chairman of Quantile Technologies.

Quantile is initially targeting large banks, although it plans to extend to other entities as the margin mandate broadens. The technology itself is production-ready, but the firm expects the real demand to come once banks have been posting initial margin for long enough to see material margin usage and the resulting need to optimise portfolios.

"In our previous roles at Morgan Stanley, we ran our own analysis and developed plans to reduce our risk and capital, but it's very hard to do this bilaterally because you only ever have a very limited view of the world, which is your own transactions. What is needed is a central entity that can take in portfolios from multiple institutions and identify counterparty risk-reducing

transactions across the network,” O’Connor explains.

The success of Quantile will clearly rely on its achieving widespread adoption, but O’Connor is confident there is sufficient interest. “With just two firms, it would be no more than a bilateral exercise, but as soon as you get three, four, five or more, the yields increase exponentially, and each party that is added really improves the output of the optimisation exercise, as evidenced by our testing,” he says.

For all of the vendors implementing the ISDA SIMM, the priority so far has been to assess the way in which the industry has handled the evolution of the margin requirements. While market participants clearly need access to the ISDA SIMM, vendors have been acutely aware of the cost pressures they face and have tailored their offerings accordingly.

“Historically, we required firms to install our software, but we have realised over the past year that with fixed-income

businesses under tremendous margin pressure, it is increasingly difficult to install software quickly and cost effectively. So we have recently launched a software-as-a-service offering, which has already seen significant uptake,” says Nakachi of OpenGamma.

Meanwhile, AcadiaSoft offers several different access options, depending on client needs. Many of the largest banks are using the service only to validate their ISDA SIMM calculations. In other cases, banks have chosen to outsource the entire calculation, and the vendor also carries out the margin call on an agency basis on behalf of the bank. A hybrid model also exists, in which AcadiaSoft carries out the calculation, but the numbers are then returned to the banks to incorporate into their own systems and to initiate the margin call themselves.

“Some banks have indicated their interest in moving more functionality into our collateral management hub, but they are taking a wait-and-see approach

before handing over critical processes to AcadiaSoft, while others are more ambitious in their willingness to use a central platform straight away,” says Demo.

Adhering to the margin requirements at a time of strained resources will be one of the industry’s biggest challenges in the years to come, but it is clear that the ISDA SIMM will continue to play a vital role in the transition. Its success will depend as much on the banks that calculate SIMM margin numbers themselves as the vendors that deliver calculation services to other participants.

“The greatest challenge is that the profitability of these businesses is a fraction of what it was a few years ago, yet the regulatory burden is 10 times what it was. Ultimately, that’s where technology will play a much more important role and providers will have to work closely with bodies like ISDA, because delivering random solutions for individual firms won’t work anymore – we need more uniformity and standardisation,” says Nakachi. ■



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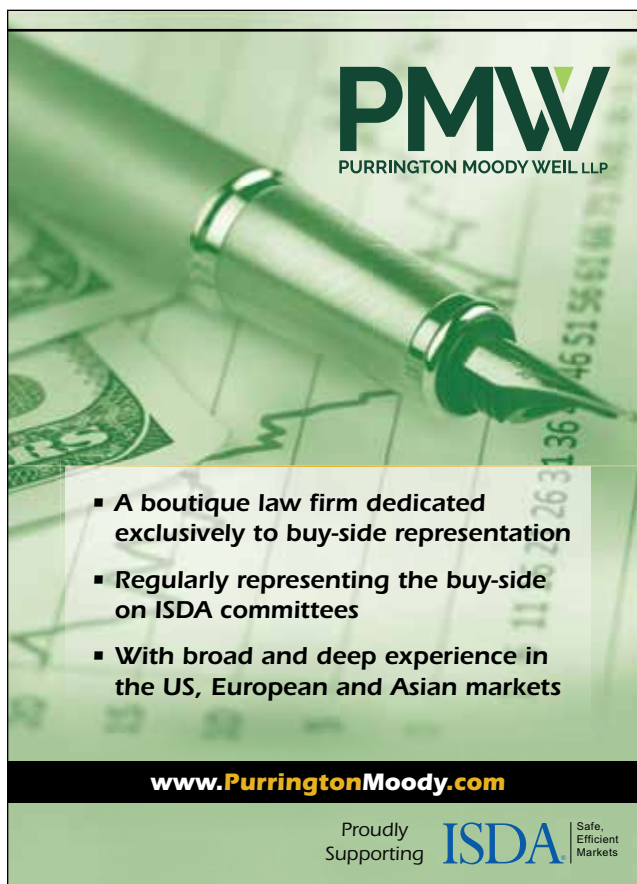
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Pushing for Automation

The rollout of margin requirements for non-cleared derivatives to a wider universe of entities next year may pose challenges for those firms with less developed collateral infrastructures. A variety of third-party service providers are offering to help.

IQ: ISDA Quarterly considers how

THE COLLATERAL MANAGEMENT space is set for an overhaul. Traditionally an area dominated by Excel spreadsheets, email and fax, new margin requirements for non-cleared derivatives are forcing a re-think of how processes are run. The question for those entities subject to the rules is whether to implement or upgrade the necessary infrastructure in-house or turn to a growing ecosystem of vendors and service providers. For some resource-constrained firms, the answer may well turn out to be a no-brainer.

Mandatory posting of initial and variation margin began for the largest phase-one entities on September 1, under rules that came into effect in the US, Canada and Japan. The requirements will be progressively rolled out to a wider array of firms over the next four years, starting with variation margin requirements on March 1, 2017. Unlike initial margin,

which will be phased in gradually until 2020, the variation margin rules will be implemented for all entities subject to the rules, as part of a 'big bang' launch.

While many – but not all – financial institutions already post variation margin on their non-cleared derivatives trades, the rules set strict requirements on everything from eligible collateral, frequency and timing of margin calls, and the level of thresholds and minimum transfer amounts. The end result will be significantly more collateral calls, on a more frequent basis – and that could well put existing collateral infrastructure under serious pressure.

As it stands, collateral management has been an area riven by manually intensive processes, with little automation. Making the necessary changes to meet the requirements on a sustainable basis will therefore be a heavy lift, participants say.

"Clearing mandates, swap execution facility implementation – all that looks simple compared to the amount of work that is going to have to be done for March," said Amy Caruso, director of strategy and North America business development at the Depository Trust & Clearing Corporation (DTCC), speaking at the ISDA annual Europe conference in London on September 20.

Rather than build or upgrade collateral processes themselves, many firms may opt to turn to the growing number of third-party providers for help. A number

of solutions are already on the market, ranging from portfolio reconciliation, valuation, margin calculation, collateral optimisation, margin delivery and reporting.

"Many of our clients are striving to get a holistic solution in place that can scale as up as they do, and can do everything from eligibility checking to the settlement process, as dictated by the regulation," said Helen Nicol, global product director of the Colline collateral management service at Lombard Risk, speaking at the September 20 ISDA conference.

At the heart of many of these services is automation. Given the massive surge in margin call volume that will be

AT A GLANCE

New margin rules for non-cleared derivatives will be extended to a broad spectrum of derivatives users next year, starting in March with the 'big bang' launch of variation margin requirements.

Many firms will need to upgrade existing, manually intensive collateral management processes in order to comply with the rules.

A number of third-party service providers are stepping in to provide a variety of offerings, from portfolio reconciliation to collateral optimisation.

"Clearing mandates, swap execution facility implementation – all that looks simple compared to the amount of work that is going to have to be done for March"

– Amy Caruso, DTCC

augured in by the new rules, adherence to antiquated collateral exchange systems – checking trade valuations and estimated collateral requirements on masses of spreadsheets, and agreeing and arranging collateral transfers over email or fax – will be close to impossible.

“What clients will need is a system that compares each counterparty’s trade or portfolio valuation and documentation terms, flags up any variances above or below specified thresholds, and then transfers the correct amount of collateral automatically,” says David White, head of sales for TriOptima’s portfolio reconciliation and counterparty exposure service, triResolve. Ideally, all this needs to happen without any human input at all, with collateral management teams employed in a purely monitoring role.

Portfolio reconciliation is an important part of this process. If two counterparties disagree on the trades that comprise their portfolio, it could create problems in agreeing margin amounts that need to be exchanged. If the disparity is not swiftly resolved, both firms could find themselves in contravention of the margin rules. In this case, automated solutions would help users to quickly and efficiently spot and address discrepancies that could ultimately lead to a dispute between counterparties.

“Dealing with valuation or documentation disputes will be incredibly important. Firms should be able to log on to their collateral management platform, instantly see what trades are matched or unmatched, then work together to resolve differences,” adds White.

Another key area of focus is collateral optimisation – in other words, the ability to monitor a firm’s existing inventory of collateral, and put it to the best, most efficient use. At the fundamental level, this involves having a clear idea of the inventory available across the firm at any one time.

Several service providers have developed systems that will allow clients to track existing collateral inventories across multiple jurisdictions, automatically or manually select the correct form of collateral required in the jurisdiction the trade is executed in, and potentially gather funds from different business lines or

geographies to make the exchange. Given tight regulatory time frames for margin posting and collection – set at T+1 under US rules – efficiency and speed is critical.

“Inventory management is fundamental. You have to have good idea of what you have. If you don’t get this right, then you’re really nowhere,” said Jonathan Cooper, director of North American sales at Broadridge, speaking at ISDA’s Europe regional conference. Broadridge is a US-based technology provider that has launched collateral management services.

“Firms will have to look at the processes, infrastructure and standardisation that exists within the clearing space and think about how that can be applied to solve some of the bilateral challenges that face participants today”

– Nathan Ondyak, SwapClear

Taking this further, collateral optimisation could allow firms to manage collateral in such a way that it reduces cost and even generates a return.

“We are looking very closely at bringing collateral optimisation into a larger liquidity platform,” said Darryl Twiggs, executive vice-president, product management, at SmartStream, a London-based provider of post-trade services. “We want to help clients move collateral into an aggregated position and turn the execution of margin calls from a cost operation to something that funds revenue opportunity,” he said, speaking at the ISDA conference on September 20.

Aside from collateral optimisation and portfolio reconciliation, there are other areas where participants may be able to get a helping hand. Margin calculation is one, and a growing number of vendors are looking to provide calculation services that incorporate the ISDA SIMM (see pages 19-21). Another focus is how to combine cleared and non-cleared analytics – and how to take what has been learned from the clearing experience and apply it to the non-cleared world.

“Efficiency is the real focus now,” said Nathan Ondyak, US head of products and markets at LCH’s SwapClear, also speaking at the September 20 conference.

“Firms will have to look at the processes, infrastructure and standardisation that exists within the clearing space and think about how that can be applied to solve some of the bilateral challenges that face participants today.”

One of the biggest problems facing those firms subject to the March 2017 deadline is awareness and time. Along with upgrading collateral infrastructure, derivatives users will also need to alter existing collateral agreements to ensure they comply with rules in each of the countries in which

they are active. Given final rules have not yet been published in some jurisdictions, time for preparation will be short.

“It’s not surprising that there is a real variance in the degree of knowledge and readiness out there. Some people have spent a great deal of time looking at this and are a long way down the path to implementation. Then there are people who are relatively unaware of the rules and of the need for collateral management systems. That’s less and less common now, which is good, but there are undoubtedly some who have much more work to do than others,” says White of TriOptima.

Further down the line, participants say collateral processing is ripe for the emergence of new technologies, such as distributed ledger and blockchain. For now, though, the incessant drumbeat of implementation deadlines means the focus for many is more immediate.

“Let’s move away from fax first before thinking about this sort of thing. Technologies such as blockchain could of course be really helpful in a lot of collateral management areas in the future, but the priority is to improve existing processes,” said Hugh Daly, chief executive of Message Automation, a London-based trade processing service, speaking at the September 20 conference. ■

Countdown to Completion

As the Basel Committee on Banking Supervision prepares to finalise its remaining capital rules by the end of the year, Andrea Enria, chairman of the European Banking Authority, tells *IQ: ISDA Quarterly* that risk sensitivity and use of internal models should remain a central component of the framework



THE BASEL COMMITTEE on Banking Supervision is closing in on a deadline to finalise the changes to its capital framework by the end of the year. Up for grabs is the role of internal models, whether and to what extent floors should be used, and the calibration of a host of other measures, including the leverage ratio.

It's turned out to be a hotly contested mix that many claim would fundamentally alter the direction of the regulatory capital framework – away from risk sensitivity and towards a greater reliance on non-risk-sensitive measures. Such a change would essentially represent a U-turn on efforts to align regulatory capital with bank internal risk management via Basel II, and a return to the blunter, more arbitrage-prone world of Basel I, critics claim.

A number of proposals are on the table. Among them are restrictions on the use of internal models for the calculation of credit risk-weighted assets,

and the elimination of the internal model approach entirely for operational risk and credit valuation adjustment (CVA). This comes on top of a requirement for all banks to model market risk using a standardised approach, with those outputs potentially acting as a floor for internal models; a proposal to introduce floors more broadly; and the introduction of non-risk based backstops such as the leverage ratio.

Proponents argue these measures are critical to reduce the variability of risk-weighted assets (RWAs) between banks, which they say muddies the waters for investors. But the changes have spooked bank risk managers, who argue that internal models are more sensitive to risk and so better align with how their institutions run their businesses.

Non-risk-sensitive measures, in comparison, can lead to poor decision-making and the possibility of a misallocation of capital, they argue. They could also lead to an increase in capital, because

standardised measures tend to be more conservative – potentially bringing into question a statement by the Basel Committee's oversight body, the Group of Central Bank Governors and Heads of Supervision (GHOS), that the changes should not result in a significant increase in overall capital levels.

It's an argument that has some support in certain parts of the regulatory community, particularly in Europe and Japan. For Andrea Enria, chairman of the European Banking Authority (EBA), it's important that risk-sensitive requirements remain the main driver of regulatory capital levels.

The current signs are not encouraging. A recent monitoring exercise conducted by the EBA on the fourth capital requirements directive/capital requirements regulation showed that the leverage ratio acts as the primary constraint for 75% of the largest banks, as opposed to acting as a backstop against overly low risk-adjusted capital levels.

"If the majority of banks have their capital requirements driven by non-risk-sensitive measures, like the leverage ratio or by floors, then I think we wouldn't be in the right area in terms of calibration," Enria tells *IQ: ISDA Quarterly*.

In this interview, Enria discusses calibration of the Basel capital framework, the importance of internal models, and variability in risk-weighted assets.

IQ: The GHOS has stated that changes to the Basel III capital framework should be made without further significantly increasing overall capital requirements. From what you've seen of the various impact studies, is that achievable with the current proposals? If not, how can the commitment be met?

Andrea Enria (AE): I think it is, but it's clear that, on the basis of the data we've collected, the proposals that have been issued for consultation will have to be recalibrated to achieve that objective. Now, how to recalibrate the proposals is a big issue. There are two points I would like to stress. The first is that the standards need to remain risk sensitive. For me, an important test to check whether the proposals are in the right spot is whether the risk-sensitive requirements are the main drivers for capital regulations. If the majority of banks have their capital requirements driven by non-risk-sensitive measures, like the leverage ratio or by floors, then I think we wouldn't be in the right area in terms of calibration. The second point is the relative allocation. It is clear there will be some capital increase. We already know that some parts of the framework were not working properly – for instance, the operational risk framework. We also know, on the basis of experience with conduct risk issues, that these models have not performed as expected. This is why there are areas where some strengthening will be needed. There are also other areas in which models have performed well and, therefore, an increase in capital requirements would not be justified. Therefore, the

distribution of the increases across different areas is important.

IQ: By considering whether there is a 'significant increase', are regulators more interested in looking at overall capital across the bank, or would a significant impact on individual business lines also be a concern?

AE: We would need to look at both. There will be a need to look at the distribution of the impact at bank level and the distribution of the impact across banks in the sample. But we also need to look at the impact by portfolio. This is crucial to understanding whether we are really targeting those portfolios that were generating the problems in terms of inconsistency in risk weights, and also to make sure that the calibration remains compatible with the evidence we have from historical data.

IQ: Is that view shared across the regulatory community?

AE: As in any field, finding a global agreement means finding a meeting point on rules that may have a different impact in different jurisdictions. In the US, for instance, there is a regulatory floor in the Dodd-Frank Act that is set at 100% of the standardised approach, so internal models are not widely used, at least for credit risk. They also have a system that isn't reliant on external ratings as a result of law, and a system in which mortgage loans tend not to be retained on banks' books. In Europe, in contrast, we have been using internal models extensively, we still rely on external ratings, and we have mortgages as one of the main asset classes on bank balance sheets. So it's clear this specific reform has a very different impact in these two jurisdictions. That doesn't mean we can't find agreement, and there is a commitment on both sides to find a compromise. We're strongly committed to have international standards and to have European banks that are in line with international standards. We think we can achieve an agreement at the global level on that basis.

IQ: Do these kinds of issues make the implementation of a consistent global capital framework more difficult?

AE: Basel III has been an extraordinary effort in actually becoming more specific in the drafting of international standards – for instance, on the definition of capital. For the first time, we have a very strong, common definition of capital that is truly harmonised globally. The task for the Basel Committee is challenging exactly because we are entering very technical details in the attribution of risk weights to different exposures. The focus is still on avoiding umbrella standards that cover a wide variety of different approaches. But it is true, to some extent, that different regulators might put more or less weight on risk-sensitive measures or the leverage ratio, for instance. One of the major changes that is being introduced is that jurisdictions would in future be Basel-compliant even if they don't allow the use of internal models, which is a big change with respect to the present. This means that some differences across jurisdictions will remain in certain areas, and we'll have to live with that.

IQ: The Basel Committee has recently proposed 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, in your view?

AE: I think internal models are an essential component of the regulatory framework in terms of risk sensitivity. If we want to have a risk-sensitive framework, then we need to rely on internal models. We have done extensive analysis on the functioning of internal models, and we are confident we have identified the areas that need to be repaired in order to allow internal models to function properly. Having said that, we are also convinced and agree with the Basel Committee that there are areas in which internal models have been less effective. For instance,

in low-default portfolios, it is clear that internal models have not worked as expected, partly because the available data was not sufficiently reliable, especially for loss given default (LGD). And we agree with the Basel Committee that some constraints might need to be introduced for the use of models – for instance, in the portfolios for which we can use the advanced approaches, or through constraints on inputs, such probability of default (PD) or LGD floors in some areas. Maybe even the use of the advanced approaches for certain portfolios should be reconsidered. So we are working with the Basel Committee to find an appropriate way forward.

Where we are less convinced is if you put too many constraints on the models. If you calibrate these constraints too conservatively, then you risk losing the risk sensitivity of the framework. This is like throwing away the baby with the bathwater. For instance, if you have highly calibrated input floors and you add output floors on top of that, plus a highly calibrated leverage ratio and the like, what we have found is that the majority of European banks would eventually have their capital requirements totally driven by non-risk-sensitive measures. This is why we need to find a way to avoid this outcome. I remain to be convinced that an output floor is really needed in a regulatory framework where you already have the leverage ratio, which is, to a large extent, performing the same function as a backstop to model risk.

IQ: What is your analysis showing in terms of possible capital requirements for European banks if the rules remain as proposed?

AE: I'm not in a position to share specific information about the data because, among other things, the data quality is still being reviewed. But it shows an increase that is not, in our view, compatible with the overall GHOS objective of avoiding a significant capital increase. Also, the relative relevance of risk-sensitive and non-risk-sensitive measures is not, in my view, in the right place. That

is why a recalibration of the framework will be needed. The areas that are particularly important for us, and that are crucial in terms of calibration, are the low-risk portfolios – namely mortgages, in particular for European banks. But we also need to look carefully at corporate portfolios and how we calibrate the divide between the large corporates and other corporate portfolios, and how we model the application of the internal ratings-based approaches to different classes of corporate counterparts.

“A lot of the variability is actually risk-based. It reflects differences in the risks of bank portfolios, and that variability is actually a positive feature of the framework”

IQ: Critics of internal models point to significant RWA discrepancies between banks with similar portfolios. Do you share that concern?

AE: We have done quite a lot of analysis on RWA viability, and we came up with a very good idea about what the main issues are. First of all, there is sometimes a rather imprecise qualification of the problem. People look at different RWA density and say this is the problem. But a lot of the variability is actually risk-based. It reflects differences in the risks of bank portfolios, and that variability is actually a positive feature of the framework – it is a desired feature of the framework. In our calculations, approximately three quarters of the variability is actually driven by differences in the underlying risks. In order to make this point more visible, first and foremost, we need to improve transparency to allow external observers to understand the drivers of the differences. We have already done a lot of work here – for instance, in the publication of the stress-test results but also in our regular transparency exercises, where we give very granular information on RWAs by portfolio and by country. In the future, we will probably develop an even more structured transparency approach in our Pillar III guidelines.

Then there is the part of the variability that is actually driven by bank or supervisory practices. We need to fix the part that is in our backyard – the differences in supervisory practices. We need to develop common standards, and we are doing so. We started last year, and we published a report after a long consultation with the industry that identified four steps to repair the framework. The first – the supervisory assessment methodology – has already been completed. The second is the definition of default and that is

also complete and will go to the European Commission (EC) very soon. The third is supervisory guidance on the estimation of risk parameters – PDs, LGDs – and that will go out for consultation later this year. The use of common definitions, which is part of this work, will be key if want to have meaningful comparisons across banks, and this is where we are focusing a significant part of our efforts. The fourth is credit risk mitigation. We plan to fix all these aspects by 2017. We received positive feedback from the industry on our approach, and since we were asked for a longer time frame for implementation during the consultation, we are considering 2020. So this part is being fixed.

For the part that concerns bank practices, we need to strike a difficult balance. On the one hand, you don't want to completely standardise the way in which banks assess risks. On the other hand, you want to avoid excessive inconsistencies in the outcomes. This is an area where we are currently working, and we have been developing benchmarking exercises that we will perform regularly.

IQ: What do you see as the main benefits of internal models?

AE: I would highlight three main benefits. The first is risk sensitivity. We know

that the standardised approaches are not sufficiently granular to really reflect the risk appetite choices made by the banks, the business strategies of the banks and the economic environment in which they operate, which reflects the overall risk in their portfolio. Also, the issue with the standardised approach, which is based on risk buckets, is that banks might have the incentive to always position themselves towards the higher part of the bucket in terms of risk to minimise the capital consumption. The second aspect is the incentives to risk management. In a regulatory framework, we should give banks a proper incentive to manage risk. In order to do so, we need to ensure that banks can continuously improve their risk measurement and management techniques. Third, if you have regulatory requirements that are not aligned with the economic risk management of the bank, then you will have incentives for regulatory circumvention. We have seen this in the past with Basel I, and we have seen it even before with the leverage ratio. I think that having a regulatory system that is aligned with the incentives of the bank, and aligned with the internal practices of the bank, is a strong element that we should maintain in the framework.

IQ: After the Basel Committee's decision to eliminate the internal model approach (IMA) for CVA, which is likely to result in increased CVA RWAs, what is your opinion on the future of the European Union (EU) CVA exemptions?

AE: We published a report on CVA exemptions last year, and we made two points. The first is that there is indeed CVA risk that is not covered by the current EU regulatory framework because of the carve-outs, and banks themselves are actually addressing this in their internal risk management by posting capital and also via the accounting treatment of CVA risk. Our main point was that this regulatory shortcoming needs to be addressed. We realised that the previous specification by

Basel was excessively conservative in certain areas and needed to be recalibrated. So our recommendation was to first develop a Pillar II approach to CVA risk that identifies banks that have an excessive exposure to CVA risk, make sure there is sufficient capital coverage for those exposures, and then work for a longer-term fix at the global level and the European level that relies on internal models. This was our proposal. Now, the Basel Committee has decided to drop the IMA approach for CVA, and this means we will have to reconsider our conclusions in light of these developments. We have not started reflecting on this yet.

IQ: Market participants and several regulators, including Timothy Massad and Mark Carney, 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. Do you share these concerns?

AE: We are aware of these concerns. We have tried to make a first assessment in a report we delivered to the EC in July. Our conclusion was that, at least on average, the impact was not particularly material. The leverage ratio moving from the old specification to the new one would change from 4.38% to 4.40%, so it will basically stay the same. We are not seeing a massive impact so far. But we stand ready to assist if the EC requires us to provide further technical advice in this area, which we know has been raised as very critical by several regulators and market participants.

IQ: Turning to the Fundamental Review of the Trading Book (FRTB), the industry has expressed concern on the ambiguity for the P&L attribution requirement. Do you have a view on how these discussions are evolving to ensure consistency of interpretation?

AE: The P&L attribution test is a central requirement for the approval of internal

model approaches, and one of the most technical parts of the FRTB. And being very technical, it is an area where there could be consistency issues arising in the implementation. So we think that an appropriate balance at the European level between the level-one legislation and level-two technical standards should be considered. It could be appropriate in this area to develop regulatory technical standards that can ensure consistency and are flexible enough to adjust in case of need – a flexibility that is not possible with level-one legislation. In this area, I would appreciate the EBA being mandated to develop standards. That is also something that extends to other areas of the FRTB, which is a very technical piece of legislation. I think it would be appropriate to avoid excessively crystallising requirements in the level-one legislation.

IQ: Under the FRTB, banks need to show risk factors have 24 'real' observable prices in a 12-month period before these risk factors can be modelled. The industry is working to coordinate its approach on the interpretation of the regulatory text and is developing business requirements in support of an end solution. Is this an initiative you support?

AE: Yes, I support the industry efforts to identify industry standards. Risk-factor modellability is a new concept under the FRTB. It raises significant implementation challenges and could also trigger a significant RWA impact if material risk factors cannot be modelled. Therefore, I think it is important that we ensure proper implementation in this area and also avoid diverging practices across banks. I believe it will be important to have delegated regulations, standards or guidelines that ensure common approaches on the supervisory side and provide guidance to the industry. But it is equally important that the industry develops best practices to which the regulators themselves can refer in their work. So this work is very welcome. ■

10 QUESTIONS WITH... DIANE GENOVA

1 **IQ: What do you expect to be the biggest area of focus for derivatives market participants over the coming 12 months?**

Diane Genova (DG): The implementation of new margin rules will be a big priority for market participants globally. Additionally, we expect the Securities and Exchange Commission (SEC) in the US will finalise the regulatory framework applicable to the security based swaps market. While that framework will be similar to that established by the Commodity Futures Trading Commission with respect to swaps, the market will still need to go through the not-insignificant exercise of registering security based swap dealers, clearing houses, trading platforms and data repositories. In the European Union, the revised Markets in Financial Instruments Directive will continue to require substantial attention. Another important focus for members of derivatives clearing houses (and, indirectly, for all market participants) is the issue of clearing house risk.

2 **IQ: What are the biggest challenges for the derivatives industry at the moment?**

DG: The lack of uniform adoption and implementation of similar regulatory requirements across jurisdictions and even across regulators within the same jurisdiction. The most recent example of this was the postponement in Europe – and subsequently in other jurisdictions – of the effective date of the non-cleared derivatives margin rules, while US regulators continued to move forward. That postponement further complicated the process of implementing a set of rules that were already complex of their own accord.



ISDA board member Diane Genova, General Counsel, Corporate and Regulatory Law at JPMorgan Chase, discusses the implementation of new margin rules for non-cleared derivatives and ISDA's work to help the industry comply

“The derivatives markets have begun to transform from a bilateral market with the emphasis on client problem solving to a standardised market with increasingly standardised ‘off-the-shelf’ products”

IQ: How do you expect derivatives markets to change over the next five years?

DG: Since the Dodd-Frank Act in the US, the European Market Infrastructure Regulation in Europe and similar regulatory initiatives in other regions, the derivatives markets have begun to transform from a bilateral market with the emphasis on client problem solving to a standardised market with increasingly standardised ‘off-the-shelf’ products. Simplification will continue to replace complexity and customisation. Credit risk will be substantially mitigated by clearing and margin, with less differentiation on the credit quality of counterparties. Trading platforms will obtain more traction.

IQ: How important is technology in driving evolution of the derivatives market?

DG: The acceleration of technological developments in the electronic trading space will be a key driver in the evolution of the derivatives market. We will continue to see new market participants and infrastructure providers that will challenge the traditional derivatives market model and regulation. We expect to see increased automated trading and market-making efforts by dealers and new market participants across asset classes. In turn, this will require new governance, monitoring and controls regimes as trading becomes more electronic and interconnected among market participants. The opportunities for technological innovation are limitless.

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

DG: I think I’m the longest serving member of the Board, having served for over 16 years.

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

DG: ISDA has a unique role in the derivatives market. Unlike other trade associations, ISDA’s focus is not only advocacy, but also active involvement in improvements to the market and in establishing mechanisms to allow the markets to run efficiently. In addition to the widely used ISDA Master Agreement, ISDA publishes – and updates as needed – definitions of market terms. It

also establishes protocols that allow market participants to more easily update their terms of dealing – for example, the Resolution Stay Protocol. Most recently, ISDA has coordinated efforts to develop standardised models for determining initial margin, which will allow market participants to use common standards and avoid bilateral disputes.

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

DG: Right now, I think that ISDA’s most important initiatives are the ones related to producing documentation that market participants need in order to comply with the increasing scope of derivatives-related regulatory requirements. Whether it is the newly published ISDA 2016 Variation Margin Protocol, or the changes needed to conform the existing ISDA Dodd-Frank Protocols to cover the SEC’s external business conduct requirements, the work that ISDA is doing on the documentation front is essential in creating a cohesive and consistent approach to regulatory compliance.

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

DG: I now lead the corporate and regulatory legal group at JPMorgan. I spent much of my career in the firm’s investment bank and was previously the general counsel for that division. I enjoyed seeing markets grow from infancy; the development of a risk management culture in the markets; and, of course, globalisation.

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

DG: I’ve been involved in financial services for my whole career, so hard to think about another path, although prior to law school, I was in PhD programme at Harvard in linguistics and then also considered going to film school.

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

DG: I like to travel to exotic places. For the past several years I have been on a ‘penguin quest’ to see all the world’s different species (one to go!). I also enjoy theatre and ballet and am an amateur photographer. ■

Deciphering the IRD Market

Clearing and compression activity have had a growing influence on the interest rate derivatives market, which is feeding through to publicly reported data. *IQ: ISDA Quarterly* breaks down the figures to obtain a picture of derivatives market trends

INTERPRETING PUBLICLY REPORTED interest rate derivatives (IRD) figures may not be as simple as it first seems. Take a look at the most recent semiannual statistics from the Bank for International Settlements (BIS), for example, and the trend appears to be unambiguous: the market is shrinking. Over the last six months of 2015, IRD notional outstanding fell by close to 12%, and dropped by nearly a quarter over the year. But the public numbers don't tell the whole story.

That's because growth in clearing and compression in response to regulatory changes have had an influence on the reported numbers. Clearing acts to increase notional outstanding as a single bilateral trade is counted as two transactions once cleared – one between the dealer and the central counterparty (CCP), and another between the client and the CCP. Compression has the opposite effect. As trades are offset and torn up, notional outstanding is reduced – giving the appearance of a shrinking market, even if trading activity remains robust.

Adjusting for these two effects provides additional information about IRD market trends. In fact, the data suggests notional outstanding has been rising before clearing and compression occurs.

Clearing

The first step in breaking down the publicly reported data is to consider the impact of clearing. This has become an increasingly important feature of IRD market activity in recent years, largely as a result of regulatory changes that introduced clearing mandates, but also because of the operational and capital advantages of using CCPs.

The act of clearing increases publicly reported total notional outstanding figures, because each bilateral transaction is counted as two trades once novated to a clearing house. To remove this double counting, the BIS figures need to be adjusted using CCP cleared IRD volumes. The aim is to remove one of the two legs of the cleared trade to get a better idea of bilateral market activity

AT A GLANCE

Roughly 67.5% of total IRD notional outstanding was cleared at the end of 2015.

Nearly 98% of what can be cleared in the IRD market is currently being cleared.

The BIS reported a decrease of 11.7% in IRD notional outstanding in the six months to December 31, 2015, from \$434.7 trillion to \$384.0 trillion, which it mostly attributed to an increase in portfolio compression.

IRD notional outstanding is estimated to have been reduced by roughly 67% as a result of compression activity.

After adjusting for the effects of clearing and estimating the impact of compression, underlying IRD notional outstanding increased by 2.5% over the six-month period to December 31, 2015.

before clearing (and double counting) occurred.

Clearing volumes are estimated to have reached \$154.7 trillion at the end of 2015, versus \$174.6 trillion at the end of June 2015. This 11.4% drop is likely the result of increased portfolio compression, which has reduced both cleared notional outstanding within CCPs and the overall size of the market.

The \$154.7 trillion in CCP cleared volume is subtracted from BIS-reported IRD notional outstanding to arrive at a total adjusted for the double counting of cleared transactions: \$229.3 trillion compared with a BIS-reported number of \$384 trillion.

Comparing CCP clearing data (\$154.7 trillion) with the notional adjusted for the double counting of cleared trades (\$229.3 trillion) indicates that approximately 67.5% of IRD notional outstanding was cleared at the end of 2015 (see box, *The Clearing Waterfall*).

Compression

While clearing acts to inflate reported notional outstanding figures, compression has the opposite impact, as offsetting trades are torn up. As a result,

compression has the effect of understating underlying market activity.

Portfolio compression has picked up pace in the past 18 months as dealers seek to reduce gross notional outstanding on their balance sheets in response to Basel III capital requirements – particularly the leverage ratio, which is based on gross notional exposures. Compression also provides legal benefits and improves operational efficiency, which market participants are keen to achieve.

The BIS data is not adjusted for the double counting of cleared trades, but it does reflect notional outstanding after compression has occurred. So, in order to better understand underlying IRD market activity, compression volumes must be added back to the notional outstanding figure that is adjusted for the double counting of cleared trades.

TriOptima's triReduce data is used to evaluate the level of IRD portfolio compression. CCP compressed figures have been adjusted for double counting and are combined with non-CCP compressions. Two types of compression are typically used to reduce gross notional volumes: solo (where a single party unilaterally nets offsetting trades)

and multilateral (involving two or more parties). TriOptima's triReduce CCP data represents only multilateral compression volume conducted within a clearing house. In the absence of solo compression data, CCP triReduce volumes have been doubled to account for both types of compression.

The resulting estimate of compressed volume is \$468.2 trillion at the end of 2015, an increase of 243.2% versus the \$136.4 trillion in compressed volume in December 2011 (the first period for which the terminations of compressed IRD volume became available).

Overall, IRD notional was reduced by approximately 67% as a result of portfolio compression by the end of 2015. Less than a third of the market was compressed five years ago. The rapid increase in compression was cited by the BIS as a major driver of the decline in reported IRD notional outstanding.

Conclusion

The BIS reported an 11.7% decrease in IRD notional outstanding in the six months to December 31, 2015. Over a longer period (December 2011 to December 2015), IRD notional outstanding as reported by the BIS decreased by 23.8% from \$504.1 trillion to \$384 trillion.

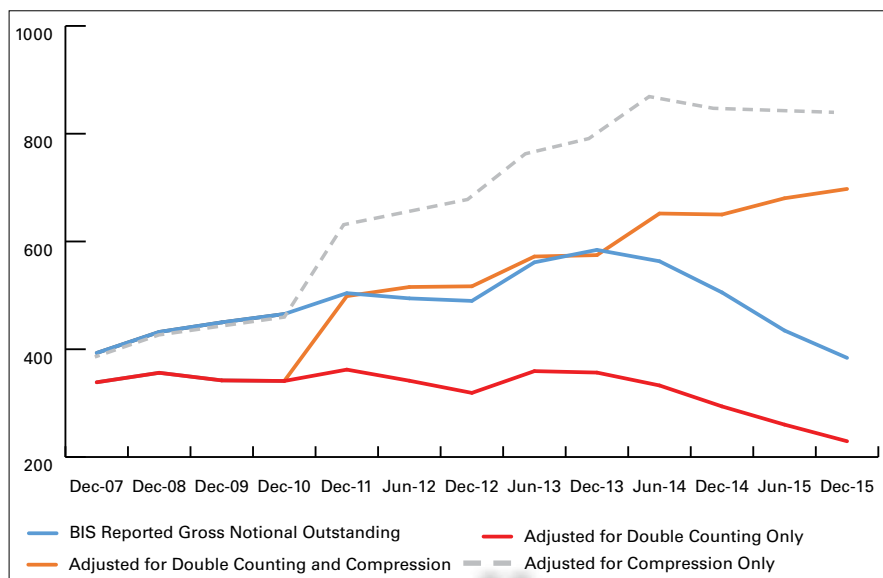
However, as seen in Chart 1, comparing the pre-clearing/pre-compression number (orange line) with the figures reported by the BIS (blue line) reveals an interesting trend.

After factoring out the effect of clearing and compression, gross notional volume actually increased 2.5%, from \$680.2 trillion at the end of June 2015 to \$697.5 trillion at the end of December 2015 (\$229.3 trillion in notional outstanding adjusted for the double counting of cleared trades plus the \$468.2 trillion in compressed volume added back).

Over the longer period, volume increased by nearly 40% from \$498.6 trillion at the end of 2011 to \$697.5 trillion at the end of 2015.

The full research report can be read here:
<http://isda.link/marketanalysisjuly2016>.

CHART 1: GROSS NOTIONAL OUTSTANDING VOLUME: INTEREST RATE DERIVATIVES (US\$ TRILLIONS)



THE CLEARING WATERFALL

Analysis of publicly reported derivatives notional outstanding figures can be extended to provide information on the universe of cleared versus non-cleared versus non-clearable interest rate derivatives (IRD) trades. This is illustrated in Chart 2.

The starting point is the IRD notional amount outstanding as reported by the BIS, which was \$384 trillion at the end of 2015 (item A). This amount is then adjusted for the double counting of cleared trades by estimating total IRD cleared volume over the same period: \$155 trillion (item B) ^{1,2}.

That figure is subtracted from the \$384 trillion to arrive at a figure adjusted for clearing – \$229 trillion (item C). Taking total cleared notional volume of \$155 trillion (item D) and dividing it by the BIS figure adjusted for clearing (\$229 trillion) shows that 67.5% of total IRD notional outstanding is currently cleared.

Subtracting the cleared volume (\$155 trillion) from the figure adjusted for the double counting of cleared trades (\$229 trillion) provides an estimate of the non-cleared market: \$74 trillion (item E) at the end of 2015.

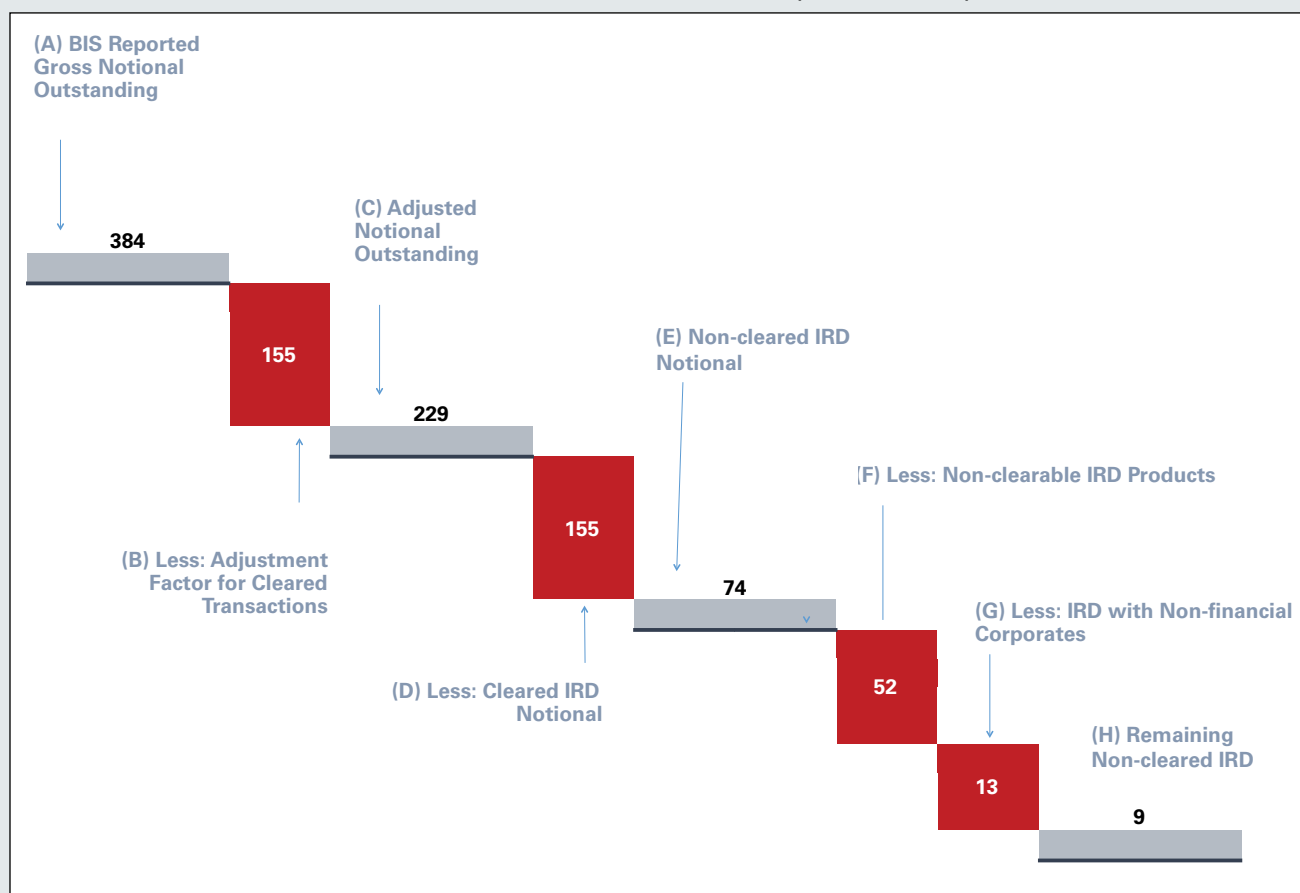
Of that \$74 trillion, \$52 trillion (item F) consists of products where clearing services are limited or non-existent, such as options, swaptions and cross-currency swaps.

In addition, a certain proportion of trading activity is conducted with entities that qualify for an exemption to the clearing mandate – for instance, non-financial corporates. This is estimated to be about \$13 trillion (item G). Removing these market segments results in the amount of IRD transactions that are in clearable product categories but remain non-cleared. This equates to around \$9 trillion (item H).

¹ All figures are rounded to whole numbers for the purposes of the waterfall analysis

² ISDA used data from the BIS, the Depository Trust & Clearing Corporation (DTCC), LCH's SwapClear, CME Group, Japan Securities Clearing Corporation (JSCC) and TriOptima. Other CCPs also clear IRD, but are excluded from this analysis, including the Australian Securities Exchange, Eurex, Nasdaq OMX, OTC Clearing Hong Kong, Singapore Exchange, Shanghai Clearing House and Korea Exchange

CHART 2: INTEREST RATE DERIVATIVES WATERFALL: DECEMBER 31, 2015 (US\$ TRILLIONS)



Credit Where Credit's Due

A new review of the empirical academic literature on the costs and benefits of single-name CDS finds that these instruments can provide a number of important benefits to hedgers and investors, and can have a positive impact on the economy

AFTER SUFFERING A precipitous dip in the aftermath of the financial crisis, activity in the single-name credit default swap (CDS) market has yet to recover, with notional outstanding falling from \$9 trillion at the end of 2014 to \$7.2 trillion by the end of 2015. Compared with its lifetime maximum in 2011, the single-name CDS market is now less than half the size it was.

A number of recent changes have been made to the market in an effort to bolster trading activity, including a reduction in the frequency with which single-name CDS roll to new on-the-run contracts, and a commitment to CDS clearing from several large buy-side participants. But increased regulatory and capital costs, together with relatively low interest rates and default levels, have seemingly cooled demand for credit risk protection using single-name CDS.

That doesn't mean that the product has become any less useful or functional as a viable tool for hedging credit risk, or that the single-name CDS market doesn't play an important role in information

processing and price discovery – as shown by a new paper that reviews the existing academic, empirical literature on single-name CDS. Commissioned by ISDA and written by Christopher Culp and Andria van der Merwe, both research fellows at the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise, and Bettina Stärkle, a consultant at Risk Management Services, the paper summarises the empirical analyses from more than 260 published academic articles and working papers on the benefits and costs of these instruments.

The conclusions of the literature review largely support the assessment that the single-name CDS market plays a useful role in the global economy. One of the major benefits is the valuable information that open-market single-name CDS trading provides. More specifically, Culp and his colleagues find very strong evidence in the literature that CDS spreads and/or changes in spreads can be used to estimate the probability of adverse credit events for underlying reference entities,

AT A GLANCE

ISDA commissioned a review of the academic, empirical literature on single-name credit default swaps to examine their costs and benefits, as reflected in the underlying data.

The research shows that single-name CDS remain an efficient tool for hedging credit risk.

The CDS market has a positive impact on the supply of credit to reference entities.

Single-name CDS provide useful information about the likelihood of future adverse credit events, including rating agency downgrades and defaults.

Little empirical evidence has been found to substantiate criticisms that these products cause instability during times of stress. Although the empirical evidence suggests that single-name CDS increase systemic interconnectedness, and therefore could exacerbate the effects of a systemic crisis, it does not demonstrate that they are the actual or potential cause of systemic crises.

The conclusions of the literature review largely support the assessment that the single-name CDS market plays a useful role in the global economy

as well as expectations about recovery rates and loss-given-default estimates. The informational connection between single-name CDS spreads and true reference entity default risks and losses-given-default, which is substantiated in the literature, validates their function as viable and potentially useful credit risk transfer instruments.

The CDS market enables banks to reduce their credit risk exposures, free up capital, and increase their supply of credit to the economy

The literature review also suggests that CDS spreads provide valuable and new information about forthcoming credit events – for example, rating agency downgrades – before those events occur. The literature indicates that the situation is a little different for positive credit events, such as rating upgrades. These tend not to be so well anticipated, and often result in a narrowing of credit spreads for reference entities in the immediate aftermath of the update events.

Another key finding of the Culp/van der Merwe/Stärkle study is that the single-name CDS market has a positive impact on the supply of credit to certain reference entities, suggesting the ability of lenders to hedge their credit exposures may make them more willing to extend credit. This substantiates an often-cited benefit of credit derivatives: namely, the CDS market enables banks to reduce their credit risk exposures, free up capital, and increase their supply of credit to the economy. The ISDA-sponsored paper also cites research that finds banks actively using single-name CDS make larger and longer-dated loans to CDS reference entities.

Although the conclusion that lender-related CDS hedging activities are linked to increases in credit supply is more or less uncontested in the literature, the findings of some empirical research present a slightly more nuanced and ambiguous picture. One paper, for

instance, concludes that the impact of CDS trading on reference entity credit supply depends on the type of entity and loan facility. The authors of that paper find that credit extensions to term-loan borrowers are more likely to occur for larger, low-risk CDS reference entities than for smaller borrowers. However, Culp and his co-authors caution that

this research is based on bank loans only, rather than all types of borrowing by reference entities.

It's a similar story with the impact on borrowing costs. Empirical evidence suggests the availability of single-name CDS often results in lower borrowing costs for some corporates and sovereigns, but the actual impact on borrowing costs depends on the type and characteristics of the borrowers. Several pieces of research find that borrowing costs tend to fall for safer, more transparent firms, but rise for riskier, more opaque entities – a trend some academics attribute to the informational value of CDS, which makes it easier to identify more creditworthy borrowers.

This particular point has been cast in a negative light by some critics, who argue that the greater reliance on the information contained in CDS spreads – and the fact that the lender has hedged its credit exposure using CDS – has resulted in a dangerous decline in loan and borrower credit monitoring. The Culp, van der Merwe and Stärkle paper concludes that the empirical evidence indicates that CDS hedging by lenders is more popular for loans to larger, more complex borrowers with relatively higher monitoring costs. Nevertheless, they also find some evidence that banks purchasing CDS protection on their borrowers do, in some cases, engage in less monitoring of borrower credit risk.

Another criticism of single-name CDS investigated in the academic literature is the so-called empty creditor hypothesis. This hypothesis suggests lenders that have hedged their loans to companies with single-name CDS have an incentive to try to push distressed firms into bankruptcy via their control rights, rather than keep them alive through restructurings or debt renegotiations, in order to trigger a credit event under the single-name CDS hedges.

The survey of the empirical academic literature by Culp and his co-authors indicates the evidence supporting the empty creditor hypothesis is ambiguous. Most of the empirical evidence in academic studies purporting to review the empty credit hypothesis supports it – reference entities exhibit higher probabilities of default and more frequent bankruptcy filings after the beginning of single-name CDS trading. However, Culp, van der Merwe and Stärkle point out economic factors other than the existence of hedged borrowers that may explain this stylised fact. Furthermore, other studies present evidence that is at odds with the empty creditor hypothesis. For instance, the number of restructuring events as a percentage of default events increased markedly after 2003, when changes were made to the original 1999 restructuring definitions in the ISDA credit derivatives documentation.

The Culp/van der Merwe/Stärkle paper also addresses a number of other potential downsides of single-name CDS – some of which, the authors note, have not been subjected to significant empirical scrutiny. One regularly cited claim is that single-name CDS contracts act as a destabilising force in the markets, and can be a threat to systemic stability during times of stress. Credit derivatives certainly came in for a great deal of criticism in the aftermath of the financial crisis after some firms had written large amounts of single-name CDS protection, often on other financial reference entities. That led to accusations that the single-name CDS market, which is

largely concentrated in the hands of the global dealer banks, has heightened the degree of interconnectedness between financial institutions and has increased the potential systemic risk arising from the failure of one or two such firms. The high correlations between equity and CDS market returns during times of stress have been used to support this argument.

Empirical evidence suggests the availability of single-name CDS often results in lower borrowing costs for some corporates and sovereigns, but the actual impact on borrowing costs depends on the type and characteristics of the borrowers

As Culp and his co-authors point out, however, correlation does not imply causation. Although most of the related academic literature substantiates the argument that intra-dealer CDS transactions heighten the interconnectedness of the global financial system, much of that evidence indicates that the informational content of CDS spreads acts as a harbinger of potential systemic risk rather than its cause, and can be useful to regulators and other market participants as a result.

Sovereign credit risk is another area where the single-name CDS market stands accused of acting as a destabilising force. Much of this opprobrium was generated by the eurozone sovereign debt crisis that flared up in 2010, and in many respects still lingers today. Anti-CDS sentiment powered the European Union's 2012 ban on 'naked' CDS, where a market participant buys single-name CDS

protection without owning the credit of the reference entity. At the time, critics of the ban said it limited liquidity in an important area of the financial markets, and took aim at the wrong target – shooting the messenger, rather than solving the underlying fiscal problems of the single currency system.

The papers reviewed by the three authors largely support this argument. A number of academic studies show that the growth in net open interest of CDS on peripheral eurozone countries in 2010 was not particularly volatile. This indicates that most buyers of CDS on these entities were using the instrument for protection, rather than moving in and out to take a temporary view on sovereign credit risk.

The literature survey also deals with the claim that excessive CDS speculation played a significant role in fuelling volatility, and had an adverse effect on sovereign creditworthiness. The Culp/van der Merwe/Stärkle paper cites several pieces of academic research that show the correlations in sovereign CDS spreads and bond prices across several eurozone countries in the early part of the crisis were not the result of financial market contagion, but rather were the by-product of country-specific macroeconomic shocks and common global risk factors. Widening CDS spreads merely conveyed these problems to the market, rather than having an outsized hand in creating them in the first place, suggest the authors. Nonetheless, other papers reviewed by the three co-authors suggest financial market contagion was at least in part to blame for the eurozone debt crisis.

One downside to the single-name CDS market highlighted in the paper is the effect of its introduction on other assets classes. Corporate bond liquidity declines as large institutional traders migrate from fixed income to CDS markets after the introduction of CDS trading. The same phenomenon has been observed in equity and equity options markets, particularly for firms in

distress. However, the research reviewed suggests this decline may be brief, and liquidity may flow back to cash instruments as inter-market arbitrage takes hold. This downside does not affect developed markets, where the single-name CDS market has been entrenched for years. However, it may cause a brief headache for emerging economies that adopt the product.

The CDS market faces ongoing challenges. As noted by Culp, van der Merwe, and Stärkle, the impact of increased capital costs under the Basel III reforms, and the 2012 naked sovereign CDS ban in Europe have been “decidedly chilling” for the market. It is hoped efforts to clear greater volumes of single-name CDS will ease capital costs and increase CDS liquidity. Ultimately, the paper suggests the single-name CDS market has played and will continue to play an important role in financial markets. ■

BENEFITS OF SINGLE-NAME CDS

Credit risk transfer: Market participants can hedge their credit risk exposure to individual reference entities in a simple, effective and efficient manner.

Increased supply of credit: This hedging efficiency allows lenders to open up larger, longer-term supplies of credit to reference entities, meaning more money for investment and economic growth.

Synthetic bond investment: The ability to sell protection without owning the underlying credit brings more liquidity to the market, and gives investors a low-cost, synthetic exposure to the credit market.

Information: CDS spreads reveal market expectations on the probability of default, often leading equity and sovereign debt markets and virtually always leading corporate bond markets in price discovery.

In Credit?

IQ: ISDA Quarterly talks to Christopher Culp, Andria van der Merwe and Bettina Stärkle, authors of a new review of the empirical academic literature on the single-name CDS market, about the conclusions they have drawn from the study



Christopher Culp

IQ: What do you consider to be the key takeaways from the academic literature review?

Christopher Culp (CC): Well, certainly the main takeaway is that sweeping generalisations about the benefits, costs and potential systemic impacts of single-name credit default swaps (CDS) – and there are a lot of those – must be interpreted with caution. We reviewed over 260 academic, empirical studies, and there are some good, specific conclusions that can be drawn for appropriate, specific questions. That is how the impact of single-name CDS should be evaluated – in terms of specific questions and specific empirical evidence. The rich, diverse, and sometimes complex literature is far too heterogeneous to be collapsed into public policy soundbites like ‘CDS are bad’ or ‘CDS are a sham’ or ‘naked shorting with CDS is

destabilising’, or, conversely, ‘CDS are the ideal mechanism for credit risk management’. Both the depth and breadth of the empirical academic literature indicates that any informed comments on CDS should be based on that literature, and not suppositions or raw opinions.

IQ: According to the research, what benefits are brought to buyers and sellers of single-name CDS? Does the product bring advantages to reference entities too?

Andria van der Merwe (AvdM): We found from our review of the quite extensive literature that single-name CDS and their market-determined spreads elucidate market participants’ expectations of future potential adverse credit events, related losses and recovery rates. Given the high informational content and the relatively higher liquidity in CDS markets, we concluded that buyers and sellers of CDS can customise their desired credit risk exposures more precisely than if they used alternative credit risk transfer solutions like outright bond or loan sales. We also saw from the literature that the

availability of single-name CDS generally has potentially significant advantages for reference entities, such as reduced funding costs for relatively low-risk and transparent corporate and sovereign borrowers with traded CDS.

IQ: What aspects of the CDS market revealed by the academic research did you find most surprising? Where there any that changed your attitude toward the instrument?

CC: Most of the results did not surprise me, but I was curious as to the apparently segmented sovereign CDS market, in which the nature of information conveyed through CDS spreads and the degree of interconnectedness was so heavily dependent on the samples in the various studies. The specific sovereign issuers, time periods used for the analyses, nature of the reference entities as developed or less-developed countries, transparency of the issuers and the like really affected the results. I believe the empirical evidence in this context warns us that any inferences and conclusions about sovereign CDS

“The main takeaway is that sweeping generalisations about the benefits, costs and potential systemic impacts of single-name credit default swaps (CDS) – and there are a lot of those – must be interpreted with caution”

– Christopher Culp

are much harder to generalise systematically than for CDS based on corporate reference entities.



Andria van der Merwe

IQ: Does the research support the criticism that CDS are merely speculative instruments that can increase systemic instability?

AvdM: We found that the empirical evidence indicates how well CDS provide information about the interconnectedness of reference entities like sovereigns or banks and their counterparties. We believe from the literature that single-name CDS spreads can clearly be a useful input to measures of potential systemic risk. We also found that the literature indicates a higher degree of interconnectedness between active CDS dealers, which could, in principle, exacerbate the consequences of the failure of an integral institution on its counterparties. But we believe that neither of these empirical observations should be conflated with the notion that single-name CDS may be the proximate cause of systemic instability, as we do not think it is supported by the empirical research.

IQ: This critique has been made with particular force against sovereign and bank CDS. What does the research show about CDS behaviour for these specific areas?

CC: Especially for eurozone sovereign borrowers, most of the empirical

evidence contradicts these popular assertions. In fact, the evidence indicates that most protection purchases on eurozone sovereign reference entities appear to have been for credit risk management purposes, not speculation.

IQ: Other criticisms, such as the empty creditor theory, have been levelled at single-name CDS. Does the research find these to be justified?

AvdM: We did find that some empirical studies support the empty creditor hypothesis. We also found that a few other studies call this theory into question. For example, there is evidence that hedged creditors have a stronger negotiating position to dissuade borrowers from strategic defaults when they have sufficient cash to service their debt.

IQ: Overall, what conclusions can be drawn from the research?

Bettina Stärkle (BS): There is little doubt from our review of this extensive literature that corporate and sovereign single-name CDS spreads provide valuable information about market participants' expectations of future credit events, recovery rates and losses-given-default. When we compared the results in the literature with corporate bond markets, single-name CDS are time and again documented to incorporate new information first. We did find from several studies



Bettina Stärkle

that the introduction of single-name CDS initially reduces liquidity in related debt markets and can increase the volatility of equity markets, but the articles we reviewed also indicate that those effects may be transitory.

“The evidence indicates that most protection purchases on eurozone sovereign reference entities appear to have been for credit risk management purposes, not speculation”

– Christopher Culp

The research we reviewed furthermore shows that single-name CDS can increase the supply of credit to certain borrowers underlying traded CDS. From our review of the numerous articles in the literature, we also found that, even though single-name CDS can increase systemic interconnectedness, transmit economic shocks and might be harbingers of systemic crises, there is virtually no compelling empirical evidence to indicate that these products cause such crises.

IQ: Are market participants better off using single-name CDS than not?

BS: Single-name CDSs are more liquid and accessible than cash bond markets, and we concluded from the literature that they provide valuable information about market expectations before the corresponding cash bond markets. To the extent that market participants seek to adjust their exposures to specific credit risks, we believe that single-name CDS provide market participants with efficient and effective risk-transfer solutions that facilitate more customised risk management alternatives than outright sales of debt or loan securitisations. ■



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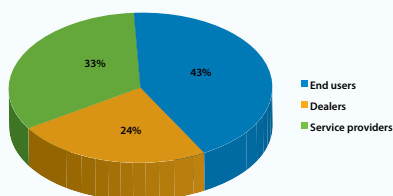
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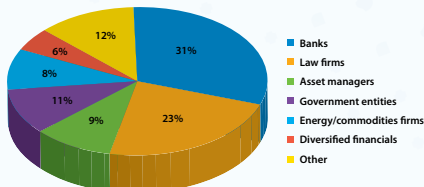
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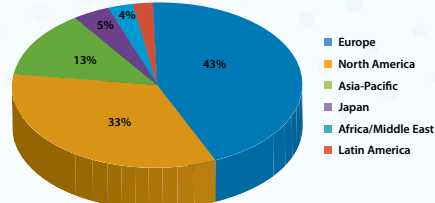
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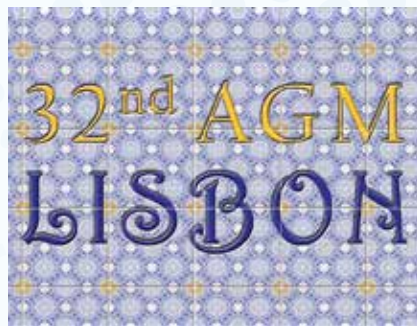
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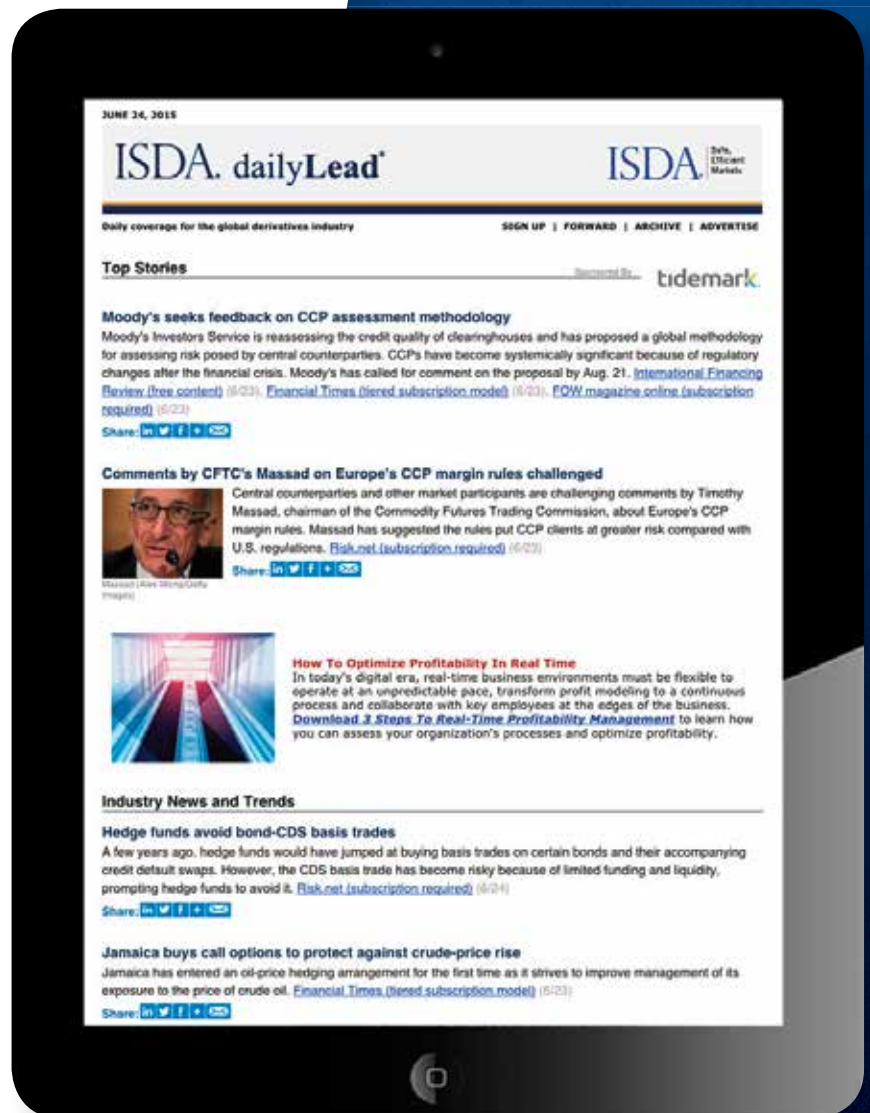
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