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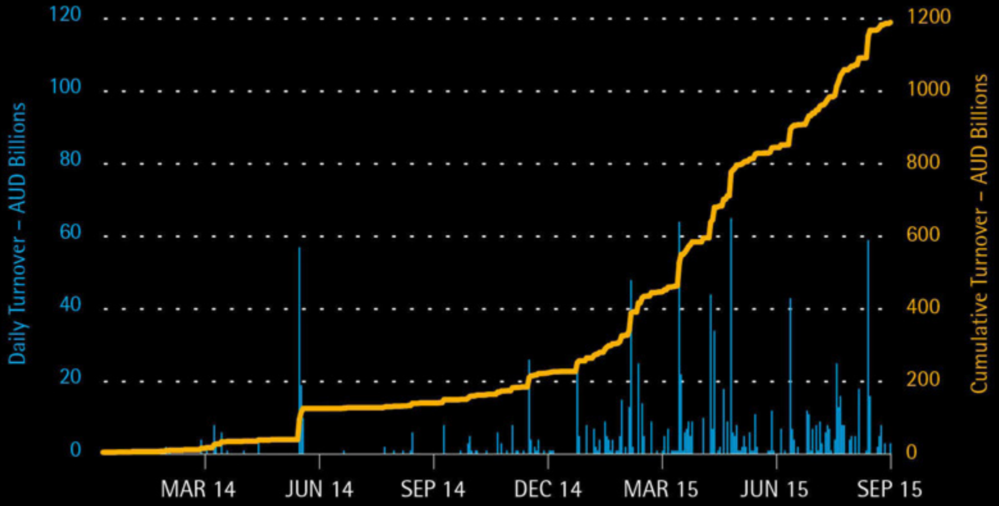

IQ: ISDA Quarterly

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Vol 1 Issue 3: October 2015
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WHAT NOW FOR BASEL III?

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- Interview: Steven Maijoor, ESMA
- Q&A with Bill Coen, BCBS

ISDA® Safe, Efficient Markets

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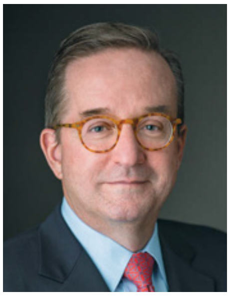

BANKS HAVE BEEN around for a long time. Bank capital requirements, on the other hand, have not. Minimum capital rules, in fact, took root only in the past four decades. Previously, regulators in different countries generally applied more qualitative 'safety and soundness' standards.

The 1988 Basel Accord – more formally known as the Basel Committee on Banking Supervision's International Convergence of Capital Measurement and Capital Standards – changed all that. It provided for the first time an international supervisory capital standard for G-10 countries. The Accord was subsequently adopted more widely and became the global benchmark for regulatory credit risk capital standards.

Over the years, the Accord has been amended several times. The Basel Committee recognised netting (under certain conditions) in determining capital requirements in 1995. New capital requirements for market risk were added in 1996. Basel II – with its 'three pillar' approach – was finalised in 2004.

Basel III is now upon us. As the Basel Committee's website states: "Basel III is a comprehensive set of reform measures, developed… to strengthen the regulation, supervision and risk management of the banking sector. These measures aim to: improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever the source; improve risk management and governance [and]; strengthen banks' transparency and disclosures."

These are important goals, which ISDA firmly supports, even as we engage wholeheartedly on the specific aspects of the new framework. This issue of *IQ: ISDA Quarterly* lays out the process, progress and challenges for policy-makers and market participants in developing and implementing a comprehensive new framework.

ISDA's work on Basel III continues a long and important tradition for the Association in global capital issues. Our members around the world have worked together under the ISDA banner for three decades on credit risk, market risk and capital standards. It is a core part of our mission to foster safe and efficient markets, and it is one of our core strategic initiatives.

We are fortunate to bring to this vital task the expertise and resources of our global membership. The collective knowledge that our members bring to the discussion is essential, not only for ISDA itself, but for the industry (to ensure its voice is heard) and for policy-makers (to understand and calibrate the impact of their decisions). As always, we thank them for their efforts and support. We also thank the Basel Committee working groups for their continued constructive engagement with the industry.

Steven Kennedy
Global Head of Public Policy
ISDA

ISDA Safe, Efficient Markets

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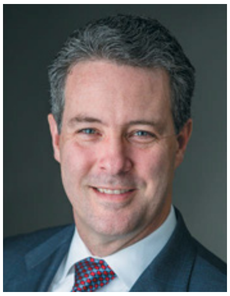
Standards, Standards, Standards



A FEW MONTHS ago, ISDA began an extensive survey of its membership. The objective was simple. With post-crisis regulatory reforms now largely in place, how are derivatives users coping with the day-to-day implementation issues? What challenges are they facing?

The responses were wide ranging, but a common thread ran through the results: the need for standardisation and automation. That may seem somewhat 'in the weeds', and a big change in pace after several years of big regulatory compliance initiatives. But it's actually very much linked, and it's very, very important. Without standardisation and automation, it's difficult to see how firms can operate in the new regulatory environment without running excessive operational risks and high costs.

The concerns about standardisation come in several forms. Derivatives users are struggling with how to best organise and run their businesses given the lack of harmonisation in the rules in each jurisdiction. They're finding it expensive and operationally complex to link up with numerous platforms and infrastructures in multiple jurisdictions, many of which have their own connectivity and product identification standards. They find it difficult to report trades given the multiplicity of different national-level requirements, trade repositories and reporting standards. And they'd like more standardisation in processes throughout the life of each trade.

Standardisation facilitates automation. Automation means less manual processes, fewer 'fat-finger' input errors and fewer resources. All of that means more efficiency and lower costs.

The first of those issues – the lack of harmonisation in global rule sets – is one that ISDA has been very vocal on, including in my recent testimony to the US House Committee on Agriculture in July (see page 9). It's absolutely vital that national-level rules are closely harmonised and that equivalence or substituted compliance decisions are based on broad outcomes. Entities like the International Organization of Securities Commissions (IOSCO) can play a role in developing common standards and monitoring compliance, but specific targets and time frames need to be set. The alternative is the fragmentation of markets into regional liquidity pools, which would be problematic for end users that want global liquidity and the choice and cost efficiencies this brings.

The other issues have been, and will continue to be, important focal points for ISDA. For example, we've played a central role in developing product and trade identifiers and reporting standards. Most recently, ISDA announced it will lead a consortium of buy- and sell-side market participants, vendors, platforms and trade associations to develop a single standard derivatives product identification system that can be applied consistently across all derivatives infrastructures (see page 10). This follows the decision by 10 other trade associations to endorse ISDA's data reporting principles earlier this year.

Standardisation of documentation is another area of focus. That has been one of ISDA's core strengths ever since the publication of the ISDA Master Agreement, and work is continuing in both cleared and non-cleared markets. This includes the continual development, monitoring and revision of standard product definitions, trade documentation and confirmation templates. But it also involves the development of standard tools to document trading relationships – for example, through ISDA Amend, an online tool jointly developed by ISDA and Markit.

> Without standardisation and automation, it's difficult to see how firms can operate in the new regulatory environment without running excessive operational risks and high costs

These initiatives take us to the point a trade is documented and executed, but what happens after that? For instance, how will firms cope with the huge volume of collateral that will need to be exchanged under new margin rules?

Responding to this issue is one is one of ISDA's biggest initiatives via its Working Group on Margining Requirements implementation programme. We're working to develop solutions for collateral processing and dispute resolution. We're implementing changes to collateral documentation to facilitate the exchange of initial and variation margin under each jurisdiction's rules. And we're looking at how we can automate the whole process. A crucial part of this is the development of the ISDA Standard Initial Margin Model (ISDA SIMM), a standard model for calculating initial margin.

In short, a lot of technical and resource-intensive challenges have emerged, which are increasing costs and operational risks faced by market participants. We have to tackle this. Financial institutions are already facing higher costs as a result of regulatory compliance and higher capital requirements. Making the whole trading process more efficient, with a greater focus on automation, will reduce the resources needed to service a client, therefore lowering costs.

ISDA intends to help drive innovation in operational processes and infrastructure, but this transformation can't begin without standardisation. All this means ISDA's role is more important than ever. ■

Scott O'Malia
Chief Executive Officer, ISDA

O'Malia Testifies Before House Ag Committee

Progress has been made in implementing the derivatives reforms contained within the Dodd-Frank Act, but new challenges have emerged that require urgent attention, ISDA's chief executive Scott O'Malia told US legislators in July.

Testifying before the House of Representatives Committee on Agriculture on July 29, O'Malia told members that a lack of coordination between domestic regulators has led to divergences in the timing and substance of national-level rules, which is posing challenges for derivatives users.

"These divergences not only increase compliance costs, but have led to a split in liquidity along geographic lines, which reduces costs, and could make it more challenging for end users to enter into or unwind large transactions, particularly in stressed market conditions. In other words, fractured rules, fractured markets, fractured liquidity," O'Malia said. His testimony was part of a hearing on the progress of Dodd-Frank in the five years since it was signed into law.

> "With other jurisdictions now developing or implementing comparable rules, there is an opportunity to harmonise the various regulations to facilitate cross-border trading"
>
> *— Scott O'Malia, ISDA*

There was some good news. The key objectives set by the Group of 20 nations and contained within Title VII of the Dodd-Frank Act have largely been met, O'Malia said. Approximately three quarters of interest rate derivatives average daily notional volume is now cleared, and more than half of average daily volume is traded on a swap execution facility (SEF), according to analysis from US swap data repositories (SDRs). All swaps are required by the Commodity Futures Trading Commission (CFTC) to be reported to an SDR, giving regulators the ability to scrutinise individual trades down to the counterparty level. Banks have significantly boosted their capital, liquidity and leverage ratios in anticipation of new prudential requirements being phased in. And final margin rules will soon be published by US regulators.

"Together, this represents a major step forward in the reform of derivatives markets. Today, the derivatives sector is more transparent than ever before, and counterparty credit risk has been substantially reduced," said O'Malia.

But challenges have emerged in all these areas, largely caused by a lack of cross-border harmonisation and the extraterritorial reach of US rules. This has meant certain counterparties and trades are subject to two or more possibly contradictory sets of requirements – those of their own jurisdiction and the extraterritorial rules of Dodd-Frank. In response, many derivatives users are choosing to trade with counterparties in their own jurisdiction, leading to a fragmentation of liquidity into regional pools.

Meanwhile, discrepancies in regulatory reporting and data requirements within and across borders mean no single regulator is currently able to aggregate derivatives data and get a clear view of trading activity on a global basis. This means a key objective of Dodd-Frank has not been fully met, he added.

O'Malia set out a number of steps that could be taken by regulators and legislators to improve Dodd-Frank. Regulators should work to harmonise their rules on a global basis within specified time frames and should set out clear, transparent guidelines for achieving equivalence determinations. The CFTC and the Securities and Exchange Commission should also harmonise their cross-border rules and guidance, he said.

Furthermore, global regulators should agree on common regulatory reporting requirements within and across jurisdictions and adopt common data standards, such as unique legal entity identifiers, unique trade identifiers and unique product identifiers, O'Malia added.

Pointing to negotiations between the CFTC and European regulators over the recognition of US clearing houses, which have stalled over technical differences in margin methodologies, O'Malia said recognition should be given to central counterparties (CCPs) that meet the Committee on Payment and Settlement Systems and International Organization of Securities Commissions *Principles for Financial Market Infrastructures*. Further work is also needed by regulators, CCPs and market participants to develop and implement best practices on CCP resilience, recovery and resolution.

To avoid cross-border problems occurring with trading, O'Malia called for trade execution rules to be more closely aligned across jurisdictions. ISDA filed a petition with the CFTC in June that made several recommendations on how to increase use of US SEFs and facilitate cross-border trading. This includes allowing for more flexibility in execution mechanisms within the SEF regulations, which would bring the rules more in line with European proposals.

In addition, any equivalence or substituted compliance determination should be based on broad outcomes, rather than a granular, line-by-line comparison of individual rules.

"With other jurisdictions now developing or implementing comparable rules, there is an opportunity to harmonise the various regulations to facilitate cross-border trading. Critical to this initiative is an effective and transparent substituted compliance framework," O'Malia said.

Read O'Malia's full testimony here: http://isda.link/houseagtestimony.

ISDA Launches Product Identification Initiative

ISDA launched a new industry data project in September, aimed at developing an open-source standard derivatives product identification system that can be applied consistently and comprehensively across all derivatives facilities, including trading venues, clearing houses, repositories and other infrastructures.

The symbology project involves a consortium of buy- and sell-side market participants, vendors, platforms and trade associations. London-based capital markets technology consultancy Etrading Software is acting as project manager.

The initiative comes in response to a variety of regulatory changes, including the European Union's revised Markets in Financial Instruments Directive/Regulation and the US Securities and Exchange Commission's reporting rules, which require a standardised means of identifying derivatives instruments at a granular level. There are also business and operational drivers. A common methodology for classifying and identifying derivatives instruments across all platforms will cut complexity and costs for market participants that need to connect to multiple trading venues, and simplify the distribution of liquidity.

The consortium will initially aim to develop a proposal for credit, rates and equity derivatives in 2015. As part of that, the group will investigate all relevant standards that may meet the industry and regulatory requirements, including Markit's Reference Entity Database codes and Bloomberg's Financial Instrument Global Identifier. Additionally, the initiative is considering how International Organization for Standardization specifications may be used.

ISDA has created a Symbology Governance Committee, which will provide oversight and governance for the project.

Subject to finalising contracts, 18 entities have agreed to participate in the initiative, including: Bank of America Merrill Lynch, Barclays, Bloomberg, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Depository Trust & Clearing Corporation, Goldman Sachs, ICAP-Traiana, JPMorgan Chase & Co, Markit, the Asset Management Group of the Securities Industry and Financial Markets Association, Société Générale, Thomson Reuters, Tradeweb and UBS. ■

Industry Preparation for Non-cleared Margin Rules Continues

Efforts to prepare for the implementation of new margining rules for non-cleared derivatives are continuing, with further progress on the development of a standard margining model. But the absence of final national rules could challenge the ability of the industry to meet the September 2016 start date.

ISDA is leading industry efforts to prepare for the new rules, and has set up workstreams to focus on legal and documentation changes, technology developments, dispute resolution and collateral processing, among other things. Central to this initiative is the work to develop a standard initial margin model, or ISDA SIMM.

"We've calibrated this model, and we're working to get it independently validated. We're also sharing this data with regulators around the world to secure their support," said Scott O'Malia, ISDA's chief executive, speaking at ISDA's regional conferences in September. "The ISDA SIMM has a number of benefits. But perhaps the most important is that it provides both regulators and market participants with a consistent model that will increase transparency and enhance oversight." Use of a common methodology will also reduce the potential for disputes, he added.

Among the recent developments, ISDA announced in early October that ICE Benchmark Administration (IBA) had been chosen to build and operate a crowdsourcing utility for the ISDA SIMM. The utility is intended to aggregate and compile risk data to enable market participants to implement the ISDA SIMM in the same way. Essentially, it will allow risk sensitivities for each risk factor to be mapped consistently to an ISDA SIMM risk bucket, reducing the potential for discrepancies between users. IBA was chosen after a selection process that began with the launch of a public invitation to tender in July.

Despite this progress, the absence of final rules by national regulators is impeding the ability of market participants to complete development and begin implementation and testing. European, Japanese and US regulators issued initial proposals last year, with the European supervisory authorities following up with a second consultation in June 2015. The Commodity Futures Trading Commission (CFTC) also published a separate proposal for the cross-border treatment of margin in June.

The release date for the final rules is unknown, but regulators have indicated they may not emerge until the end of this year. Speaking at ISDA's North America regional conference in September, CFTC commissioner Sharon Bowen said she hopes the final rules will be published by December. In an interview with *IQ: ISDA Quarterly* (see pages 26-30), Steven Maijoor, chairman of the European Securities and Markets Authority, said European supervisors also expect to release final rules by the end of this year.

"All this needs to be completed and implemented by September 2016. That's despite the fact that final rules have not yet been published by domestic regulators, hampering the ability of industry participants to develop and fully test new technology, infrastructure and documentation," said O'Malia at ISDA's regional conference. ■

Additional information on the ISDA SIMM project can be found at: http://www2.isda.org/functional-areas/wgmr-implementation/

What Now for Basel III?

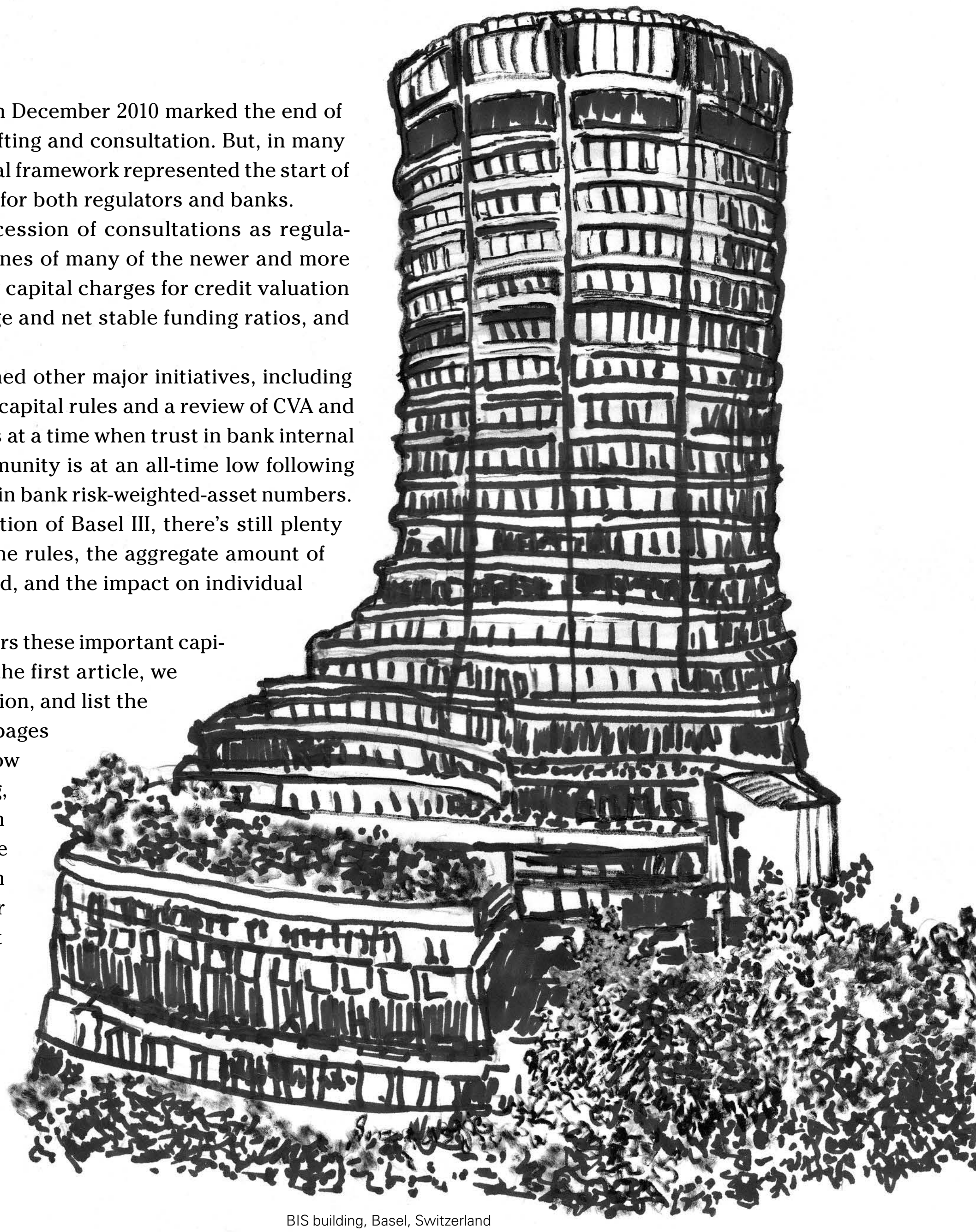
THE PUBLICATION OF Basel III in December 2010 marked the end of a busy two-year period of drafting and consultation. But, in many respects, the release of the final framework represented the start of an even more intense process for both regulators and banks.

The past five years has seen a succession of consultations as regulators have looked to put flesh on the bones of many of the newer and more complex elements of Basel III, including capital charges for credit valuation adjustment (CVA), the liquidity coverage and net stable funding ratios, and the leverage ratio.

The Basel Committee has also launched other major initiatives, including a fundamental overhaul of trading book capital rules and a review of CVA and securitisation requirements. This comes at a time when trust in bank internal models by some in the regulatory community is at an all-time low following analysis that has shown wide variability in bank risk-weighted-asset numbers.

All in all, five years after the publication of Basel III, there's still plenty of uncertainty over the final shape of the rules, the aggregate amount of capital banks will ultimately have to hold, and the impact on individual business lines.

This issue of *IQ: ISDA Quarterly* considers these important capital reforms from a variety of angles. In the first article, we summarise the timeline for implementation, and list the elements that remain outstanding (see pages 12-15). Our second article examines how attitudes to internal models are changing, and the impact of a potential reduction in risk sensitivity within the capital rules (see pages 16-19). The recent consultation on the treatment of CVA forms the basis for our fourth article (see pages 23-25). What changes are being proposed, and what impact will they have on bank CVA desks? Finally, Bill Coen, secretary-general of the Basel Committee, discusses some of the priorities for regulators in the year ahead (see pages 20-22). ■



BIS building, Basel, Switzerland

The Basel III Timeline

Five years after the finalisation of Basel III, the effects of the new capital rules are being felt by banks. But some of the most significant changes are still to be implemented, meaning the overall impact is unknown

PRUDENTIAL REGULATORS ARE a little more than half way through their efforts to fix global bank capital rules in response to the financial crisis. Through the implementation of Basel III, capital requirements have been strengthened, and rules on the type and quality of capital banks must hold have been toughened up. Banking groups are building up stocks of high-quality assets to guard against future liquidity shocks, and more attention is now being paid to counterparty credit risk.

These are important steps in addressing the weaknesses exposed by the financial crisis, but there's still some way to go. The rollout schedule runs through to 2019, and includes the phase-in of several key liquidity, leverage and trading book measures (see Figure 1).

Following the finalisation of Basel III in December 2010, the Basel Committee on Banking Supervision has been busy fleshing out the detail of each of the requirements. Banks, for their part, have had to prepare for various follow-up consultations and implementations, at the same time as complying with numerous other regulations relating to trading, reporting and clearing.

The Basel Committee's phase-in period for higher and better quality capital requirements began from January 2013, with the minimum common equity capital ratio and Tier 1 capital requirement rising to 4.5% and 6%, respectively, from this year (see Figure 2). Other changes to capital – the introduction of new capital conservation and countercyclical buffers, along with a surcharge for systemically important banks – will be phased in from January 2016.

The first stages of the new liquidity risk management regime have also been implemented. The liquidity coverage ratio – which is intended to ensure banks have sufficient high-quality liquid assets to survive a 30-day stress event – is being incrementally rolled out from this year until 2019. Other changes, such as new charges for credit valuation adjustment (CVA) and for bank exposures to central counterparty default funds, have also been introduced.

But plenty of other components have yet to emerge – and, in some cases, even to be finalised. The Fundamental Review of the Trading Book (FRTB) is a case in point. This initiative is meant to replace the current crop of measures implemented through Basel 2.5 with a more coherent and consistent set of requirements, and to reduce the variability in the capital numbers generated by banks for market risk.

The rules are scheduled to be finalised at the end of this year, with implementation expected in 2019. But market participants say it's too early to determine what the effect of these rules will be. That's largely because the analysis conducted so far has been hampered by data-quality issues, which have made it difficult to assess the impact on individual business lines.

However, early analysis suggested the rules could lead to punitive capital increases in certain businesses, making some markets, such as securitisation and small- and medium-sized entity credit, uneconomic. The Basel Committee agreed in June to run another quantitative impact study before the end of the year in order to further assess the proposals (see box).

On top of this, the Basel Committee issued a new consultation on CVA in July to bring it into line with the FRTB and address other perceived weaknesses, which is likely to alter how CVA capital is calculated (see pages 23-25).

AT A GLANCE

The Basel Committee began phasing in its Basel III requirements from 2013, starting with higher and better quality bank capital.

Some parts of the framework have yet to be finalised or fully implemented, including key components like the leverage ratio and the Fundamental Review of the Trading Book.

Implementation is scheduled to run until 2019 under the Basel Committee timetable.

The cumulative impact of the various rules in unknown, but there are concerns the rules in aggregate will have a detrimental impact on certain business lines.

FIGURE 1

BASEL COMMITTEE ON BANKING SUPERVISION REFORMS - BASEL III

	Capital					Liquidity
	Pillar 1			Pillar 2	Pillar 3	
	Capital	**Risk coverage**	**Containing leverage**	**Risk management and supervision**	**Market discipline**	**Global liquidity standard and supervisory monitoring**
All Banks	**Quality and level of capital** Greater focus on common equity. The minimum will be raised to 4.5% of risk-weighted assets, after deductions. **Capital loss absorption at the point of non-viability** Contractual terms of capital instruments will include a clause that allows – at the discretion of the relevant authority – write-off or conversion to common shares if the bank is judged to be non-viable. This principle increases the contribution of the private sector to resolving future banking crises and thereby reduces moral hazard. **Capital conservation buffer** Comprising common equity of 2.5% of risk-weighted assets, bringing the total common equity standard to 7%. Constraint on a bank's discretionary distributions will be imposed when banks fall into the buffer range. **Countercyclical buffer** Imposed within a range of 0-2.5% comprising common equity, when authorities judge credit growth is resulting in an unacceptable build up of systematic risk.	**Securitisations** Strengthens the capital treatment for certain complex securitisations. Requires banks to conduct more rigorous credit analyses of externally rated securitisation exposures. **Trading book** Basel 2.5 introduced significantly higher capital for trading and derivatives activities, as well as complex securitisations held in the trading book. Trading book rules are currently undergoing a fundamental review to improve consistency and achieve comparable levels of capital across jurisdictions. **Counterparty credit risk** Substantial strengthening of the counterparty credit risk framework. Includes: more stringent requirements for measuring exposure; capital incentives for banks to use central counterparties for derivatives; and higher capital for inter-financial sector exposures. **Bank exposures to central counterparties (CCPs)** The Basel Committee has proposed that trade exposures to a qualifying CCP will receive a 2% risk weight and default fund exposures to a qualifying CCP will be capitalised according to a risk-based method that estimates risk arising from such default fund.	**Leverage ratio** A non-risk-based leverage ratio that includes off-balance-sheet exposures will serve as a backstop to the risk-based capital requirement. Also helps contain system-wide build up of leverage.	**Supplemental Pillar 2 requirements.** Address firm-wide governance and risk management; capturing the risk of off-balance-sheet exposures and securitisation activities; managing risk concentrations; providing incentives for banks to better manage risk and returns over the long term; sound compensation practices; valuation practices; stress testing; accounting standards for financial instruments; corporate governance; and supervisory colleges.	**Revised Pillar 3 disclosures requirements** The requirements introduced relate to securitisation exposures and sponsorship of off-balance-sheet vehicles. Enhanced disclosures on the detail of the components of regulatory capital and their reconciliation to the reported accounts will be required, including a comprehensive explanation of how a bank calculates its regulatory capital ratios.	**Liquidity coverage ratio** The liquidity coverage ratio will require banks to have sufficient high-quality liquid assets to withstand a 30-day stressed funding scenario that is specified by supervisors. **Net stable funding ratio** The net stable funding ratio is a longer-term structural ratio designed to address liquidity mismatches. It covers the entire balance sheet and provides incentives for banks to use stable sources of funding. **Principles for Sound Liquidity Risk Management and Supervision** The 2008 guidance Principles for Sound Liquidity Risk Management and Supervision takes account of lessons learned during the crisis and is based on a fundamental review of sound practices for managing liquidity risk in banking organisations. **Supervisory monitoring** The liquidity framework includes a common set of monitoring metrics to assist supervisors in identifying and analysing liquidity risk trends at both the bank and system-wide level.
SIFIs	In addition to meeting the Basel III requirements, global systemically important financial institutions (SIFIs) must have higher loss-absorbency capacity to reflect the greater risks that they pose to the financial system. The Basel Committee has developed a methodology that includes both quantitative indicators and qualitative elements to identify global systemically important banks (SIBs). The additional loss-absorbency requirements are to be met with a progressive common equity Tier 1 capital requirement ranging from 1% to 2.5%, depending on a bank's systemic importance. For banks facing the highest SIB surcharge, an additional loss absorbency of 1% could be applied as a disincentive to increase materially their global systemic importance in the future.					

Source: Bank for International Settlements

Other issues still to be finalised include the possible introduction of capital floors – essentially, a backstop to internal models, likely to be set at a percentage of the standard model output. A consultation paper was published last December, and final rules are likely sometime this year – although it is not clear when the requirements will be implemented.

Additional components of the Basel III package are finalised but not yet implemented, including the leverage ratio and the net stable funding ratio (NSFR). The NSFR is meant to ensure banks fund their activities with sufficiently stable sources of funding to avoid liquidity mismatches. It is defined as the available amount of stable funding divided by the required amount of stable funding, with the stability of funding sources and the liquidity risk profiles of various assets and off-balance-sheet exposures determined by regulators. A minimum 100% ratio is required. Following an observation period, the requirements are scheduled to come into force from January 2018.

The leverage ratio, meanwhile, acts as a non-risk-based measure focused on overall balance-sheet exposure, with strict limits on netting. Under the Basel III implementation schedule, banks had to begin public disclosure of their leverage-ratio numbers from this year, with the rules subject to final calibration in 2017 and full implementation in 2018.

But there are concerns that some of these measures may duplicate or even contradict other requirements. For instance, regulators globally have been working to ensure incentives are in place for the central clearing of standardised derivatives, but those incentives appear to be challenged by the leverage ratio.

That's because the leverage ratio doesn't recognise the effect of segregated client cash collateral for cleared derivatives transactions. The rules assume segregated client cash collateral can be used by a bank to fund its operations, despite strict rules that ensure segregated client margin is separated from the assets of the clearing member or futures commission merchant, and cannot be used by the bank for its own purposes. As such, rather than being a source of leverage and risk exposure for banks, properly segregated client cash collateral reduces the exposure related to a bank's clearing business by covering any losses that may be left by a defaulting client.

Failure to recognise the exposure-reducing effect of properly segregated client cash collateral would increase the amount of capital needed to support client clearing activities. This could discourage banks from participating in this business, reducing access to clearing services for end users, market participants argue.

There are also concerns about how each of the various elements of the Basel framework will interact with each other.

FIGURE 2

BASEL III PHASE-IN ARRANGEMENTS
(All dates are as of 1 January)

<table>
<tr><th></th><th>Phases</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>2017</th><th>2018</th><th>2019</th></tr>
<tr><td rowspan="9">Capital</td><td>Leverage ratio</td><td colspan="5">Parallel run 1 Jan 2013 – 1 Jan 2017
Disclosure starts 1 Jan 2015</td><td>Migration to Pillar 1</td><td></td></tr>
<tr><td>Minimum common equity capital ratio</td><td>3.5%</td><td>4.0%</td><td colspan="4">4.5%</td><td>4.5%</td></tr>
<tr><td>Capital conservation buffer</td><td></td><td></td><td></td><td>0.625%</td><td>1.25%</td><td>1.875%</td><td>2.5%</td></tr>
<tr><td>Minimum common equity plus capital conservation buffer</td><td>3.5%</td><td>4.0%</td><td>4.5%</td><td>5.125%</td><td>5.75%</td><td>6.375%</td><td>7.0%</td></tr>
<tr><td>Phase-in of deductions from CET1*</td><td></td><td>20%</td><td>40%</td><td>60%</td><td>80%</td><td>100%</td><td>100%</td></tr>
<tr><td>Minimum Tier 1 capital</td><td>4.5%</td><td>5.5%</td><td colspan="4">6.0%</td><td>6.0%</td></tr>
<tr><td>Minimum total capital</td><td></td><td colspan="5">8.0%</td><td>8.0%</td></tr>
<tr><td>Minimum total capital plus conservation buffer</td><td></td><td colspan="2">8.0%</td><td>8.625%</td><td>9.25%</td><td>9.875%</td><td>10.5%</td></tr>
<tr><td>Capital instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital</td><td colspan="7">Phased out over 10-year horizon beginning 2013</td></tr>
<tr><td colspan="9"></td></tr>
<tr><td rowspan="2">Liquidity</td><td>Liquidity coverage ratio – minimum requirement</td><td></td><td></td><td>60%</td><td>70%</td><td>80%</td><td>90%</td><td>100%</td></tr>
<tr><td>Net stable funding ratio</td><td></td><td></td><td></td><td></td><td></td><td>Introduce minimum standard</td><td></td></tr>
</table>

* Including amounts exceeding the limit for deferred tax assets (DTAs), mortgage servicing rights (MSRs) and financials.

Source: Bank for International Settlements

While each rule may make sense in isolation, the cumulative impact is unknown, industry participants warn. Banks are trying to understand the interplay between the three main elements – capital, leverage and liquidity rules – as a result.

"The full impact of a lot of this change is not being felt yet because there's more to come. But when banks are deciding what business they want to undertake, they have to consider not just the risk-based capital, but also the floors, the leverage ratio and the liquidity implications," says Mark Gheerbrant, head of risk and capital at ISDA.

The fear is that the rules in aggregate will result in a disproportionate impact on the capital levels for certain products and markets. Some banks, for instance, have already pulled back from credit default swaps trading or closed their client clearing businesses, with those decisions attributed to regulatory changes.

As such, some in the industry believe a review of the coherency and interaction between the multiple regulations is necessary. The capital rules also need to be globally consistent to ensure a level playing field across jurisdictions and avoid regulatory arbitrage, participants add.

The implementation schedule picks up pace next year, with several of the capital buffers beginning their phase-in. But understanding the full impact of the capital rules is some way off yet. ■

Latest FRTB QIS figures show capital increases

Industry analysis from the most recent firm-wide quantitative impact study (QIS) on the Fundamental Review of the Trading Book (FRTB) suggests banks will be required to hold significantly more capital under the new standardised methodology than they do today.

According to analysis of QIS data submitted by 28 banks, the standardised approach will result in 4.2 times the total market risk capital that firms hold under the existing approach. That's despite changes to the framework contained in QIS instructions issued to banks in June, which market participants had hoped would tackle some of the problematic issues raised during the previous impact study.

In particular, a move away from asymmetric correlations, which industry participants claimed had made unrealistic assumptions about the behaviour of portfolios and led to high capital charges even for well-hedged positions, was expected to result in greater alignment of risk and capital requirements. However, the analysis suggests a new notional-based add-on to capture residual risks in the standardised approach would offset the improvement caused by the replacement of asymmetric correlations. The analysis showed this non-risk-sensitive residual risk add-on accounts for 47% of total market risk capital for the standardised approach.

The FRTB is intended to comprehensively overhaul trading book capital rules, replacing an assortment of measures introduced in the immediate aftermath of the financial crisis via Basel 2.5 with a more coherent set of requirements. The changes are primarily aimed at addressing structural shortcomings in the market risk framework by including a risk-sensitive standardised approach and factoring in market liquidity, as well as reducing variability in capital levels between banks.

The first consultation paper was published in May 2012, followed by two more in October 2013 and December 2014. The Basel Committee on Banking Supervision has also run a series of impact studies – one based on a hypothetical set of positions and three using real bank portfolios.

However, concerns were raised about the quality of the data submitted for the first two firm-wide studies, largely because of operational and specification issues. A lack of granularity also meant the impact on individual business lines was unclear. Analysis suggested the rules could result in significant capital increases, as well as a sizeable variance in capital requirements under the standard rules and internal model outputs. Business lines likely to be hit the hardest appeared to be those most important for the wider economy: bonds, small- to medium-sized enterprise credit and small cap equities (see *IQ: ISDA Quarterly* July 2015, pages 38-40).

In response, the Basel Committee announced in June that it would run a new analysis to further assess the framework at a more granular level, a decision widely welcomed by industry participants. The data was submitted in early October.

Alongside the 4.2 times increase in market risk capital requirements under the standardised approach, the analysis of bank QIS data also shows large differences between capital numbers generated under the internal model and standardised approaches. This is important, because the Basel Committee intends the standardised approach to act as a credible fall-back to internal models, making it easier for regulators to withdraw internal model approval. However, the analysis suggests a change from internal models to the standardised approach would require between 2.1 and 4.6 times more capital, depending on the risk-factor class.

The QIS data also showed a 2.2 times increase in capital for securitisation transactions compared to Basel 2.5. This could make the securitisation market uneconomic, reducing the availability of financing for borrowers at a time when some jurisdictions are increasingly focused on initiatives to generate and sustain economic growth.

For the internal models approach, the analysis revealed that a non-modellable risk factor component accounts for 29% of the total market risk capital charge, and is 4.3 times the 'risk not in VAR' capital charge banks hold today.

Industry participants are hopeful the Basel Committee will address these remaining issues before the rules are finalised at the end of the year. Further detail on the QIS analysis can be found on ISDA's website: **http://www2.isda.org/functional-areas/risk-management/**.

Coming Full Circle

The Basel Committee has been considering a number of initiatives to make the Basel capital framework simpler and more comparable, including limiting the role of internal models and introducing backstop measures. What impact could this have on risk management practices?

"IF THINGS ARE SIMPLE, they can often be more appealing – more beautiful, actually," said Andrew Mackenzie, chief executive of mining company BHP Billiton, in an interview with the *Financial Times* in March 2015.

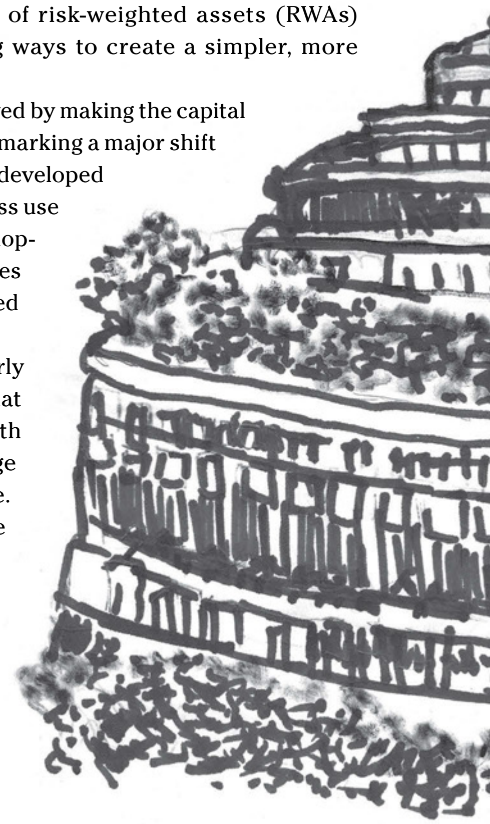
As unconventional as such a comment might sound, coming from a leading UK businessman, it is arguably even more bizarre that his words should come to be referenced within weeks by Stefan Ingves, chairman of the Basel Committee on Banking Supervision.

"We should continue to be mindful of the inherent bias towards making things too complex. That is not to say that things should be simplistic, but making things complex is not always the best way to capture risk," said Ingves in a speech in Berlin on May 5.

Ingves was alluding to one of the more challenging and controversial projects the Basel Committee has undertaken since the financial crisis. With Basel III now well into the implementation phase, regulators have been examining the complexity and comparability of risk-weighted assets (RWAs) across banks, and considering ways to create a simpler, more level playing field.

Comparability could be achieved by making the capital framework less sensitive to risk, marking a major shift in the way regulatory capital has developed since Basel II. That might mean less use of internal models, and greater adoption of standardised methodologies that can be more easily harmonised by regulators.

"The Basel Committee is clearly trying to create a framework that has comparability at its heart, with backstops such as the leverage ratio playing a much bigger role. But the value of every measure needs to be analysed as part of the broader supervisory package, and that package must be looked



AT A GLANCE

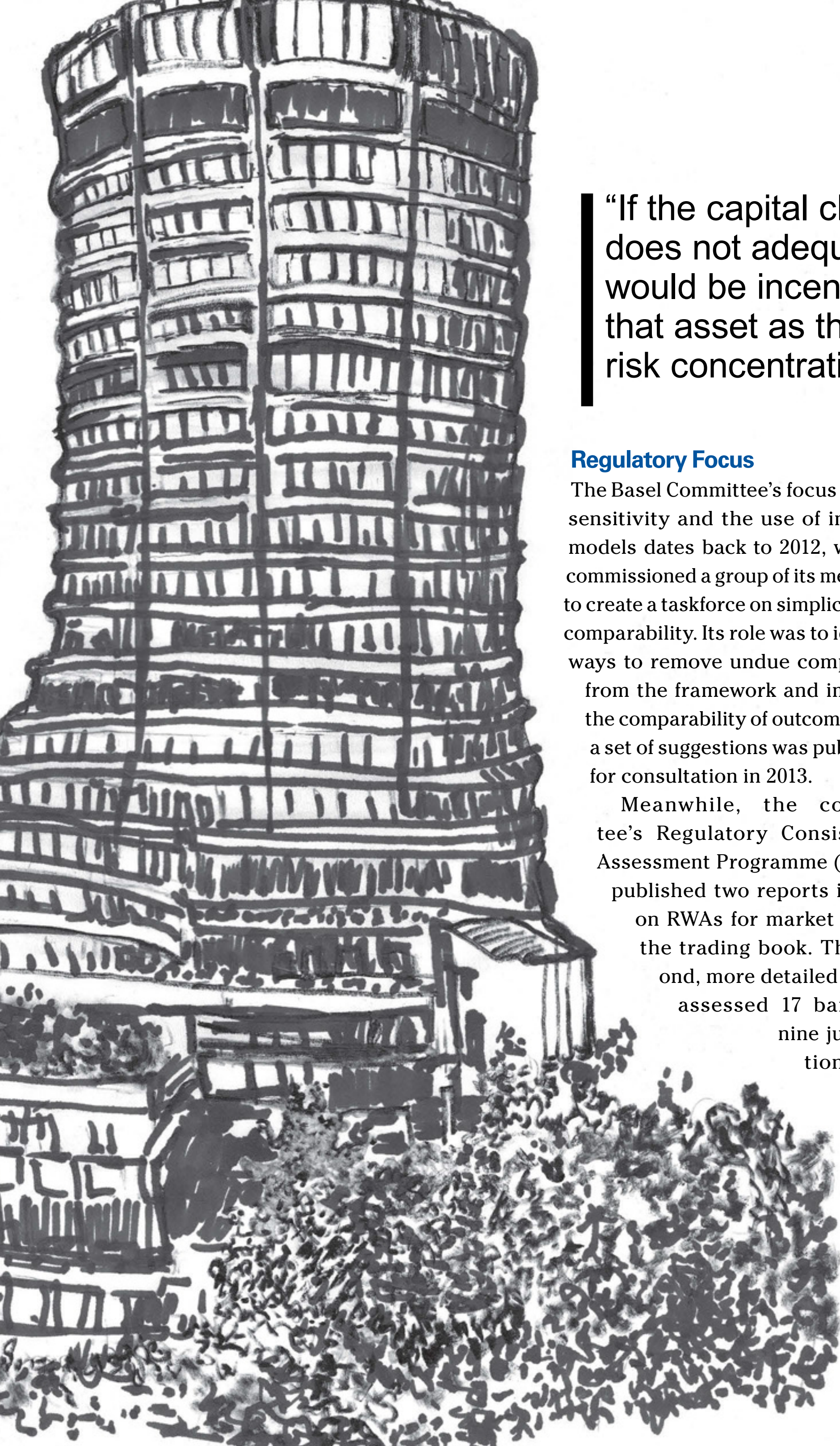
Regulators are eager to reduce the complexity of the Basel framework and lessen the variability of bank capital numbers.

That has led to increased scrutiny of bank internal risk models, and the adoption of simpler capital and leverage backstops.

Regulators argue this will enable market participants to better compare the relative strengths and weaknesses of banks.

However, bank risk managers argue any reduction in risk sensitivity comes with a number of potential consequences. For example, capital rules that are less sensitive to risk can encourage perverse behaviour by making it relatively more attractive to hold riskier, higher yielding assets.

> With Basel III now well into the implementation phase, regulators have been examining the complexity and comparability of risk-weighted assets (RWAs) across banks, and considering ways to create a simpler, more level playing field



> "If the capital charge for holding an asset does not adequately reflect its risk, banks would be incentivised to buy as much of that asset as they can, potentially creating risk concentrations"
>
> *— Mark Gheerbrant, ISDA*

at through multiple lenses, including how it reacts to prudent risk management, and how it behaves in a stressed environment," says Henry Wayne, managing director, regulatory reform, in Citi's risk analytics division in London.

Regulatory Focus

The Basel Committee's focus on risk sensitivity and the use of internal models dates back to 2012, when it commissioned a group of its members to create a taskforce on simplicity and comparability. Its role was to identify ways to remove undue complexity from the framework and improve the comparability of outcomes, and a set of suggestions was published for consultation in 2013.

Meanwhile, the committee's Regulatory Consistency Assessment Programme (RCAP) published two reports in 2013 on RWAs for market risk in the trading book. The second, more detailed report assessed 17 banks in nine jurisdictions and found significant variation in internal model outputs.

In light of those inconsistencies, the RCAP recommended that the range of modelling choices for banks should be narrowed, public disclosure needed to be improved, and supervisory practices for model approvals should be further harmonised. In November 2014, the Basel Committee published a report to the Group of 20 nations, setting out how it planned to reduce variability in capital ratios.

Recognition of inconsistencies and flaws in the risk-sensitive capital framework has not been confined to the technical policy-making level, but has also crept into more mainstream dialogue. In a landmark paper delivered at the US Federal Reserve's Jackson Hole symposium in 2012, the Bank of England's then executive director for financial stability, Andrew Haldane, took aim at the growing complexity of regulatory capital and the hazards of internal models.

"The quest for risk sensitivity in the Basel framework, while sensible in principle, has generated problems in practice. It has spawned startling degrees of complexity and an over-reliance on probably unreliable models. The Tower of Basel is at risk of over-fitting – and over-balancing. It may be time to rethink its architecture," Haldane wrote.

By questioning the risk sensitivity of the capital framework, Haldane, who had himself served on the Basel Committee, appeared to be laying bare deep misgivings about the path it had taken, but he was not alone. In a speech on prudential regulation in May 2014, Federal Reserve governor Daniel Tarullo revealed his own concerns over the Basel II internal ratings-based (IRB) approach for risk-weighted capital requirements.

"The combined complexity and opacity of risk weights generated by each banking organisation for purposes of its regulatory capital requirement create manifold risks of gaming, mistake and monitoring difficulty. The IRB approach contributes little to market understanding of large banks' balance sheets, and thus fails to strengthen market discipline," said Tarullo.

Internal Models

Taking these high-profile comments together with the more recent work undertaken by the Basel Committee, it seems clear which way the wind is blowing. Having addressed the overall quality and quantity of capital in the banking system, regulators are now rethinking the degree of autonomy that should be granted to banks to use their own models.

The Basel Committee's Fundamental Review of the Trading Book (FRTB), which was first issued for consultation in 2012, is based in part on the premise that trading book capital has become too reliant on internal models, with a potential for large differences in capital requirements between internal-model and standardised approaches. In response, the FRTB will introduce a more risk-sensitive standardised model in an attempt to narrow the gap. Banks will also be required to apply for internal-model approval at the individual desk level, rather than applying at the entity level.

> Market participants argue that measures like the leverage ratio can provide useful additional information, but should not act as a primary driver for risk and business decisions

More recently, the Basel Committee's review of the credit valuation adjustment (CVA) risk framework, published in July, gave a further indication of the committee's misgivings about internal models (see pages 23-25). The paper, which was open for consultation until October 1, expressed concerns over whether CVA risk can be properly captured by an internal model.

But for bank risk managers, internal models have become a cornerstone of capital management over the years, and the prevailing mood among regulators isn't easy for them to accept. While they may recognise the inconsistencies that can arise from the growing complexity of models, there is concern that standardised models fail to align as closely with underlying risks.

"The standardised approaches that have been used in the past tend to be very blunt instruments that are not risk sensitive, so there is a real danger of taking away a risk-sensitive internal model and replacing it with a less effective measure. That could lead to behavioural changes as banks might be incentivised to take more risk," says a senior official focused on regulatory issues at one US bank.

A preferable approach, the official adds, would be to consider standardising inputs into models while retaining their risk sensitivity. "If regulators were to be a little more prescriptive on how banks determine the inputs into their models, then that would probably lead to less variability across banks. But abandoning internal models altogether would take us back many years to the world of Basel I."

Perverse Incentives

Others share the belief that moving away from internal models altogether would reverse much of the progress that has been made over the years. The so-called 'use test' in Basel II was designed to ensure that regulatory capital aligned with internal risk management practices, and ratings weren't being devised solely for the purposes of capital calculations.

"If we move away from risk sensitivity in capital, it raises all sorts of questions about pricing, and whether deals are priced for risk or for capital. If the two are not properly aligned, then it can lead to poor decision-making, as well as incentivising perverse behaviour at times of stress," says Mark Gheerbrant, head of risk and capital at ISDA in London.

A crude example of that perverse behaviour might occur if a bank needed to improve its capital adequacy during a crisis. A non-risk-based framework might require broadly the same amount of capital to be held for an AAA-rated bond as a BBB-rated bond, whereas a risk-based capital framework would incentivise the bank to sell the lower-rated bond.

"If the capital charge for holding an asset does not adequately reflect its risk, banks would be incentivised to buy as much of that asset as they can, potentially creating risk concentrations. Conversely, if the charge is set too high, then banks will not want to hold that asset, threatening the viability of certain business lines, which could pose a risk to the economy," says Gheerbrant.

Using non-risk-based metrics also makes it harder for external analysts and regulators to assess the creditworthiness of a bank, because the capital ratios won't necessarily reflect the underlying risk exposure, Gheerbrant adds.

In spite of these arguments in favour of risk sensitivity, internal models have become increasingly complex over the years and harder for external supervisors to understand and manage. The results of the RCAP studies have added fuel to the fire, highlighting the apparent lack of comparability between banks that use internal models.

As part of the drive to tackle this, Basel regulators have in recent years enhanced standardised models to ensure robust and credible alternatives are available. The standardised approach for measuring counterparty credit risk, known as SA-CCR, was finalised in March 2014 and is due to take effect at the start of 2017, while the FRTB includes a revised standard approach for market risk, known as the sensitivity-based approach (SBA).

"Standardised models have been criticised in the past for their relative lack of sophistication, so the creation of the SA-CCR and SBA is intended to allow regulators to more easily disallow internal models because there will be more credible fall-back options in place if the internal models fail to meet the new modelling standards," says Gheerbrant.

While there are clear moves to downplay internal models in both the FRTB and the CVA review, it remains to be seen how far the Basel Committee will ultimately go towards outlawing them altogether. For one thing, not all regulators are on the same page. The European Banking Authority (EBA), for example, has made it very clear that it still sees value in internal models and the risk sensitivity they generate.

To that end, the EBA has drafted regulatory technical standards to restore confidence in internal models for market risk, credit risk and operational risk, which are due to be submitted to the European Commission by the end of this year. The authority has also been working on enhanced supervisory tools to assess the outcomes of models, as well as mechanisms to improve transparency.

"The use of internal models brings clear benefits, such as an increase in the risk sensitivity of the capital framework, as well as improvements in risk management practices of institutions and a more risk-focused supervision. However, internal models also pose challenges and supervisory risks, which need to be addressed," the EBA explained in its annual report, published in June 2015.

Leverage Ratio

A focus on internal models is only part of the story, however. Regulators could also reduce the risk sensitivity of the capital framework through the introduction of backstop measures designed to ensure capital cannot be allowed to fall below a certain level.

The clearest example is the leverage ratio, which is in the process of being implemented as part of the Basel III package. The leverage ratio divides Tier 1 capital by exposure to come up with a blunt measure of a bank's leverage. Banks have been required to disclose their leverage ratios to regulators since 2013, and have reported these numbers to the public since the start of 2015.

During this so-called 'parallel run' period, which extends for four years until the end of 2016, the Basel Committee is testing a minimum leverage ratio requirement of 3% to make sure the calibration is appropriate. Having monitored its behaviour relative to risk-based capital over that period, the committee plans to make any final tweaks in 2017, before it becomes a Pillar 1 measure at the start of 2018. If ultimately calibrated at a higher level, the leverage ratio would naturally have a greater impact.

Although the leverage ratio has been on the horizon for a long time, and its implementation is now well advanced, it has been highly controversial since inception. Many market participants still struggle with the concept of having to comply with a blunt non-risk-based ratio alongside normal capital ratios.

> "A non-risk-sensitive backstop metric is useful, but it can't and shouldn't replace risk-based metrics. Capital metrics ultimately drive the allocation of scarce capital, so over-simplification will inevitably result in misallocation"
>
> *— Eric Litvack, ISDA*

"The rationale for having a system-wide minimum leverage ratio is clear, because you don't want the creation of credit to be greater than the total amount of capital needed to absorb losses, and you want to control asset bubbles. But, at the bank level, its value is much more questionable, especially if it is really being used to avoid the use of risk models," says the head of capital management at one European bank in London.

Market participants argue that measures like the leverage ratio can provide useful additional information, but should not act as a primary driver for risk and business decisions.

"Backstops have to be part of a much bigger picture of coherent supervisory measures, and they need to be carefully monitored. A leverage ratio can certainly act in unexpected ways, so it will be important to appreciate how both regulators and investors will react to unanticipated outcomes," says Citi's Wayne.

Capital Floors

The use of backstop measures may not end with the leverage ratio, however. In December 2014, the Basel Committee issued a consultative document on a capital floor framework, another measure aimed at reducing the variation in capital ratios. A floor could set a minimum average risk weight for credit risk, market risk and operational risk, calibrated to a percentage of the standardised approaches for each category, or calibrated based on total risk-weighted assets.

Whichever approach is ultimately taken, the capital floor would, like the leverage ratio, put a limit on the influence of risk-based capital management.

"As soon as you have floors in a model, you introduce discontinuity between capital and risk, which could put the bank in an economic position that is not wholly compatible with its commercial reality. There is a widespread view that the Basel Committee should hold fire on the capital floor framework, and take the time to consider the impact of the full quantum of measures it has put in place before adding anything else," says the European bank's head of capital management.

Unlike many regulatory exercises that may be reasonably straightforward to review and react to, the changes to risk sensitivity are much more complicated, spanning multiple Basel Committee initiatives and consultation documents. But taken together, the effect of simplifying the framework could be felt much more forcefully than other individual measures.

"I feel strongly that we should resist the siren-calls of over-simplification. A non-risk-sensitive backstop metric is useful, but it can't and shouldn't replace risk-based metrics. Capital metrics ultimately drive the allocation of scarce capital, so over-simplification will inevitably result in misallocation," says Eric Litvack, chairman of ISDA. ■

Basel's Priorities

A LOT HAS been achieved since the Basel Committee on Banking Supervision started work on Basel III, but a lot remains to be done ahead of the final roll-out date of 2019. *IQ: ISDA Quarterly* talks to Basel Committee secretary-general Bill Coen about the move by the committee to reconsider the use of internal models, the finalisation of the Fundamental Review of the Trading Book (FRTB), and plans for a study on the coherence of the framework.

IQ: What are the Basel Committee's priorities for the year ahead?

Bill Coen (BC): Our main focus is finalising our response to the crisis. Basel III was the main response. That took some time because of all the new elements – the two liquidity standards, for instance. Once Basel III was firmly in place, there were other issues, partly driven by our programme to reduce excessive risk-weighted-asset (RWA) variability, and they're also reform-related: the standardised approaches to credit risk and operational risk, and the market risk rules. So that's the priority for the Basel Committee: bringing things to an end and providing some clarity, certainty and stability to the regulatory framework.

The other issue is the coherence of the framework. A refrain we often hear is that aspects of the framework work against each other. We've given these issues a lot of thought and are comfortable with the regulatory architecture that has developed. Nevertheless, I think it does make sense to recognise these things are new – a global leverage ratio, the liquidity coverage ratio, the net stable funding ratio – and therefore take a step back and see how all these moving parts fit together. Do they align? Do they mesh as we had expected them to? Are there any frictions that we weren't expecting? So the coherence of the framework is something we're paying close attention to, and that's also a priority as we work towards finalising our reform agenda.

IQ: What form will that take? Will it be a quantitative study to determine the cumulative impact on capital requirements?

BC: It will be both quantitative and qualitative. On the qualitative side, it will be largely about explaining the interactions between the various standards under different scenarios, and showing that the interactions are logical and intended. In our view, the various standards are complementary – each target specific risks, and the strengths of one metric mitigate the weaknesses of another. We haven't got as far as deciding when to publish something, but an important part of it will be explaining what we've done and why we did it, as well as why – in our view – this is indeed a coherent framework.

> "In our view, the various standards are complementary – each target specific risks, and the strengths of one metric mitigate the weaknesses of another"

IQ: Any other priorities?

BC: There are two other things I'll mention. One is supervision, which is the raison d'être of the committee. We're known mainly for what we've done on the regulatory side, but we are the Basel Committee on Banking *Supervision*, and that's one of the main tasks of the Basel Committee: to ensure high-quality supervision. Resource constraints have meant we've perhaps gotten away from that because of all the work we've done on the regulatory side. But there's a clear desire to make sure supervision is as effective as possible and to look at what we can do to improve that. Related to that is implementation. We've spent many years on these rules, so we need to make sure they are implemented. To achieve globally consistent implementation, we established the regulatory consistency assessment programme (RCAP) about three years ago.

That was a breakthrough moment for the implementation of international standards. The success of the RCAP is evidenced by the fact that other standard setters have looked at putting similar programmes in place. We'll continue to conduct country-specific assessments, not just for capital and liquidity, but also for the leverage ratio and the global systemically important bank framework.

IQ: Have these country assessments been successful? Has the policy of publicly highlighting national-level divergences from the framework worked to increase consistency?

BC: I think it has. It may not be so apparent why. Remember, the Basel Committee has no sanctioning authority and no enforcement powers. People have paid attention to the published reports, but I don't think that has necessarily been the only impact. A significant amount is achieved before we publish the reports through the interaction we have with local authorities. In the published reports, we highlight a number of adjustments that were made to the local rules before the exercise was actually finished. And in some cases, the number of changes that countries have made to better align their rules with Basel standards is significant. That really underlines the benefit of the programme, because it really has resulted in changes in most jurisdictions.

***IQ:* The Basel Committee has indicated its intention to control the use of internal models, partly through the development of more risk-sensitive standardised models that are designed to act as a credible fallback to internal models, and partly through the introduction of backstops and capital floors. Is there a place for internal models?**

BC: I think there is. We're not trying to simplify the framework just for the sake of simplification. Risk sensitivity is important, but we have to ask ourselves whether internal models always deliver this added risk sensitivity. It's arguable whether this is always the case. And even when models are more risk sensitive than other approaches, do they come at the expense of excessive complexity and opacity? Are models really understood by banks' senior management and supervisors?

This is truly a balancing act, and it presents a significant policy challenge. The argument for the use of internal models is based on the perceived benefits of greater risk sensitivity. The benefits are clear from the perspective of risk management, pricing and internal capital allocations – but shouldn't banks be making those investments in models anyway? Do banks really need capital incentives to do that? That's something that puzzles me. I know that was the philosophy of Basel II – to provide a capital incentive to get banks to invest in models. But here we are, roughly 10 years after Basel II was published, and one could justifiably ask whether that capital incentive has indeed led to better risk management, pricing, capital allocation and other improvements. Or has it just provided the basis for lower regulatory capital? So there is a big question. The extent of variability in RWAs has reinforced what a lot of people had suspected – that the capital incentive has led to gaming and not necessarily to improvements in risk management. So this is something we are continuing to look at very closely.

***IQ:* Do you expect further restrictions on the use of internal models?**

BC: I expect the committee will consult on the potential removal of the advanced measurement approach for operational risk by the end of this year. Looking at the spate of misconduct fines, it is not clear that internal operational risk models have served their purpose well. So there's scepticism about the ongoing use of operational risk models. Is it really possibly to reliably model such tail events? If not, bank's and supervisor's time may be better spent on the qualitative aspects of operational risk management, rather than fitting fancy distributions to limited data. Looking at credit valuation adjustment (CVA): this is an extremely complex topic to begin with, and one that is somewhat compounded by the relatively recent introduction of the accounting standard. Accounting for CVA is still relatively new, it's still bedding down. Which is why this is another area where supervisors have a healthy dose of scepticism about the use of models for regulatory capital purposes.

***IQ:* How does this affect the concept of the use test – that models used for regulatory capital purposes should align with those used for business purposes?**

BC: I was with the Basel Committee secretariat when the minimum requirements for the use of models for internal ratings-based purposes were being written. The use test was front and centre in allowing banks to use their internal risk estimates for regulatory capital purposes. First and foremost, banks should have the models in place and should be using the models for business purposes. And then, based on passing the use test, banks can leverage the results of their models for capital purposes. To the extent that models are retained in the framework, the use test continues to apply.

***IQ:* Some regulators and market participants have argued that a failure to recognise the exposure-reducing effect of properly segregated client cash collateral in the leverage ratio increases the costs of clearing and could reduce the incentive to clear. Does the Basel Committee plan to revisit this issue?**

BC: This is an issue that one of our technical working groups is considering. Part of the problem is the definition of segregation: it varies from jurisdiction to jurisdiction. I've heard banks say they've achieved legal segregation, but then acknowledge the funds can still be reinvested under strict conditions to earn a return. Well, that's not segregation. So it's a fraught issue. I do wonder about the impact. We have ongoing discussions with banks on a lot of the proposals we put forth, even once they become part of the framework, and people like to refer to unintended consequences. Very often they're fully intended consequences. When I meet with banks and trade associations, one thing I always say is that if you want to have a discussion about consequences, then it's got to be based on facts. The leverage ratio is a crude tool. It isn't risk-based; it doesn't try to discourage or encourage any particular lines of business. But I hear quite a bit about how the leverage ratio is going to impede the move towards central clearing. The data and analysis I have seen

> "The extent of variability in RWAs has reinforced what a lot of people had suspected – that the capital incentive has led to gaming and not necessarily to improvements in risk management"

do not support this. Based on initial analysis we have conducted, the impact looks rather modest. That said, this is an important issue on which we are continuing to do more work.

IQ: What's the timeline for considering this issue?

BC: We expect the leverage ratio to become a minimum requirement at the beginning of 2018. Any changes we make to the leverage ratio at the global level would have to go through the national rule-making processes of Basel Committee members. That usually takes at least a year. So, working backwards, that takes us to the end of 2016 – which is not that far off. There's a strong desire that whatever changes we make, if any, should be done in the near term.

IQ: In its 2012 consultation document, the Basel Committee said the main objectives of the FRTB were to address shortcomings in the overall design of the regime, as well as weaknesses in risk measurement under both the internal models-based and standardised approaches. Are these still the objectives, or have others been added during the consultation process?

BC: They're certainly still the objectives. We weren't pleased with the way the market risk rules had worked. Some of the changes we made – for instance, the liquidity horizons, moving from value-at-risk to expected shortfall – will lead to better risk capture, better risk management and a more realistic amount of capital. So our objectives haven't changed. It's disappointing it's taken this long. It's not for lack of trying. At the end of the day, we'll deliver something that addresses the key weaknesses we set out to fix, but it is relatively complex and will take time to bed down, both at banks and supervisory agencies.

IQ: Are you on track to finalise the FRTB framework by the end of the year, or does the timing depend on analysis of the most recent quantitative impact study (QIS)?

BC: I fully expect to finalise the trading book rules by the end of the year. Maybe it will spill over into early next year, as there's always some last-minute drafting that needs to be done. But the final framework that we expect to deliver around year-end should be fully specified – that is, all the parameters, all the risk weights, all the factors should be there. Once the framework is finalised, it will make sense to continue to look at it, as we do the entire framework. We have twice-yearly monitoring exercises that tell us the amount of capital that's being delivered by the capital framework. We will certainly continue to do that, and we'll continue to look at market risk. For example, if the new standards don't produce the results we were expecting, I would never foreclose the possibility that we could adjust something in the future. That's rare, but it's something we do track closely.

> "People like to refer to unintended consequences. Very often they're fully intended consequences"

IQ: So, the framework published at the end of the year will be fully calibrated?

BC: That's right. My expectation is to have a fully calibrated, final set of rules by the end of the year.

IQ: The CVA review has been widely welcomed by industry participants, particularly in its efforts to align regulatory and accounting CVA. How important is it to achieve this alignment? To what extent should prudential regulators be able to influence accounting CVA practices to achieve this consistency?

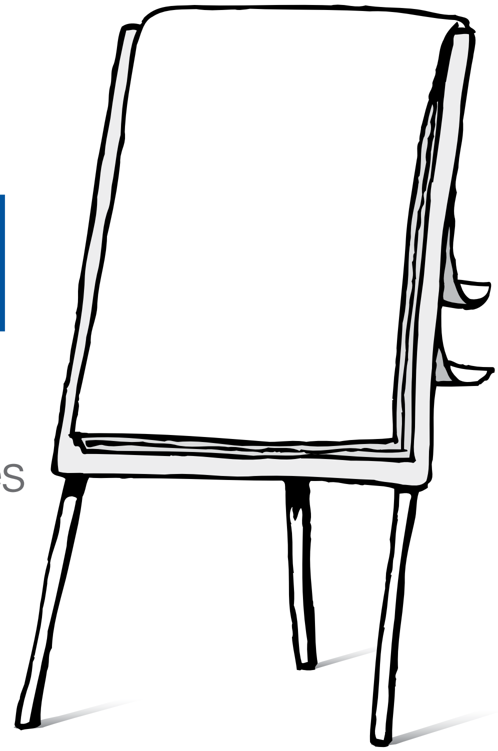
BC: I don't think there was a clear intention to have the models aligned perfectly or even closely with accounting. We pay close attention to the development of accounting standards that have an impact on banks, and we engage closely with the standard-setting bodies for accounting. At the same time, we recognise this isn't our responsibility. We always take the view that if we feel we have to go further than the accounting treatment from a prudential standpoint or provide additional guidance for banks, then we will.

IQ: It's nearly five years since Basel III was finalised. What lessons, if any, have been learned?

BC: If you think about the context, the spotlight was shining intensely on us. We had just expanded the Basel Committee, and we'd more or less doubled in size, from 13 to 27 members. So we became a very large organisation, practically overnight, and we were able to achieve quite a lot in a relatively short amount of time. There was an intense need to move quickly to address the regulatory deficiencies laid bare by the crisis. Things like the definition of regulatory capital, the level of minimum requirements, a global leverage-ratio standard and liquidity requirements. The manner in which we conducted our policy development process, with the consultations, QISs and top-down economic analyses, was important. These allowed us to have discussions within the committee and also with external stakeholders based on evidence and facts, and through a transparent consultative process. People don't always agree with what we did, but at least we explained why we were doing what we were doing. So those two things – the transparency and openness of consulting and the QISs – really enabled us to produce a good product in a relatively short amount of time.

The other thing I should point out is that there was a certain sense of humility. The Basel framework in place pre-crisis was lacking in many respects, and I think it was really important that we recognised what didn't work. One of the things we knew we had to improve was the lack of implementation. Basel II, in many respects, wasn't all that bad. It's been much maligned, but if the rules – as written – were followed, then one could argue that things wouldn't have been so bad. Also, the rules were written in a way that allowed for certain instruments to count as capital and, as we discovered, these didn't absorb losses as expected. The fact we now go back after people have agreed on certain standards and check to see whether the standards are implemented as written is really important. It adds discipline to the process. ■

CVA: Back to the Drawing Board



The Basel Committee's proposed review of CVA risk capital tackles many of the challenges that have been encountered in the existing framework, but regulators have given themselves a short time frame to make the changes

CALIBRATING CAPITAL REQUIREMENTS so they adequately capture the future risk of loss, but can be implemented consistently on a global basis without being overly punitive, is a difficult balance to get right. In the case of counterparty credit risk, it's a challenge regulators are continuing to wrestle with, nearly five years after Basel III was finalised.

The capital charge for credit valuation adjustment (CVA) – a centrepiece of the Basel Committee on Banking Supervision's efforts to address losses resulting from counterparty risk during the financial crisis – is widely acknowledged to have been one of the most problematic components of Basel III. Inconsistent implementation, flawed calculations and a lack of alignment with industry best practices are among the most common challenges banks have encountered.

> "Greater homogeneity between accounting and regulatory CVA is welcome, with a view to better aligning with existing and well-established practices"
>
> — *Eric Litvack, ISDA*

To the industry's relief, the Basel Committee recognised the need to review the charge, and published a revised framework for consultation in July 2015. The review effectively takes the industry back to the drawing board, setting out revised calculation methodologies and eligibility criteria to capture CVA risk.

"The current CVA methodology poses some problems, and has led to different national regulators applying the rules in different ways. We welcome the decision to review the CVA framework,

AT A GLANCE

The Basel Committee published a review of its CVA capital framework for consultation on July 1, 2015. Comments were due on October 1. A QIS ran between July 20 and September 14.

The review is primarily aimed at aligning CVA capital rules with accounting treatment and ensuring consistency with the market risk framework under the FRTB. It is also meant to capture all CVA risks by taking the exposure component of CVA risk into account, as well as incorporating better recognition of CVA hedges.

The Basel Committee proposes two methodologies for calculating CVA: a basic approach, and an approach consistent with the FRTB.

The FRTB-CVA approach incorporates standardised and internal model approaches, but the Basel Committee has questioned whether internal models should be allowed.

Industry participants argue internal models should be included. They also believe a materiality threshold should be incorporated to reduce the calculation burden on portfolios with little or no CVA risk.

Market participants strongly believe that aligning the definition of CVA used for determining capital with the CVA used in financial statements is important to ensure a robust, risk-sensitive and consistent capital framework.

and hope some of the key issues can be resolved," says Mark Gheerbrant, head of risk and capital at ISDA.

Accounting CVA

One of the areas of most significant concern has been the lack of alignment between accounting and regulatory standards for the calculation of CVA risk. Under international accounting standards, counterparty credit risk must be recognised when reporting the fair value of derivatives. As CVA represents an adjustment to that fair value, most banks already calculate it internally.

But banks have complained that the regulatory capital charge for CVA set out in Basel III bears little resemblance to the way in which they manage the risk internally, and have called for a recalibration. The 2015 review recognises these concerns, highlighting some of the changes to accounting standards since the crisis, which are not reflected in the Basel III formula.

> "We believe the internal models approach should be retained in the final standards, because the standardised approaches could be too conservative"
>
> *— Stéphane Boivin, EBA*

One of the options set out in the consultative document is for regulatory CVA to be calculated using the exposure models applied to calculate accounting CVA, but the Basel Committee stipulates that those exposure models must be risk-neutral and calibrated to market-implied parameters if possible, and account for a finite margin period of risk for margined counterparties.

The Basel Committee acknowledges that those stipulations may represent a departure from current accounting practices, explaining that they are "intended to represent best and prudential practice in internal CVA calculations". But some participants remain uncomfortable with the idea of prudential regulators mandating changes to accounting practices.

"Greater homogeneity between accounting and regulatory CVA is welcome, with a view to better aligning with existing and well-established practices and to avoid a false choice between managing risk capital and managing results volatility. However, the Basel Committee should be careful not to be overly prescriptive, with the result that a prescribed prudential methodology would in effect determine an accounting methodology," says Eric Litvack, chairman of ISDA.

The true extent of the alignment between regulatory and accounting CVA will only be known once the revised framework has been fully tested and calibrated. But this remains an area of focus for the industry, given the potentially punitive consequences of having a capital charge that bears little resemblance to how the risk is measured and managed internally.

"We would like a capital charge that relies upon our internal view of the risk, which is based on the accounting framework. Elements of these proposals seem to hit the right note, but there is a lot of detail we need to work through before we can accurately estimate the impact of what has been proposed," says a senior risk manager at a European bank in London.

Internal Models

The CVA review sets out two possible frameworks for calculating CVA. The first, which is designed to be consistent with the Basel Committee's Fundamental Review of the Trading Book (FRTB), includes both a standardised approach and an internal model approach, and would be available to banks that have a dedicated CVA risk management function and advanced calculation capabilities. The second approach, known as the basic CVA framework, is effectively an updated version of the standardised CVA methodology in Basel III, and would apply to banks without the internal resources to apply the FRTB-CVA framework.

While the FRTB-CVA framework includes an internal-model-based approach, the Basel Committee has left a question mark over its survival in the final standard, reflecting a broader move away from internal models in the capital framework (see pages 16-19). The review document explains that the committee has "reservations as to whether CVA can be effectively captured within an internal model designed to capture market risks in the trading book".

The potential exclusion of internal models has alarmed some risk managers, not just because they believe internal models better capture risk, but also because they argue that the standardised approach has not been properly tested. If there are adequate modelling standards to safeguard the performance of an internal model, then that should mitigate regulatory concerns over the use of internal models in the CVA framework, participants say.

"The revised framework appears to be fairly positive, but if internal models are to be removed, then the standardised approach will need to be much more thoroughly tested to make sure it creates the right incentives and continues to generate sensible capital requirements in a stressed scenario," says Henry Wayne, managing director, regulatory reform, in Citi's risk analytics division in London.

The removal of internal models would also put the Basel Committee at odds with the European Banking Authority (EBA), which has broadly welcomed the CVA review but remains committed to improving the reliability of internal models across risk categories.

The EBA published an extensive set of policy recommendations relating to CVA in February 2015, including a proposal for "advanced institutions" to be allowed to use internal pricing models to calculate their own funds requirement for CVA risk.

"The Basel CVA review broadly reflects the policy proposals made by the EBA, but we still have a concern over the internal approach. We believe the internal models approach should be retained in the final standards, because the standardised approaches could be too conservative. The upcoming quantitative impact study (QIS) results will shed more light on this," says Stéphane Boivin, policy expert at the EBA in London.

Hedge Recognition

A further area of industry concern has been over the recognition of hedges. The CVA capital charge in Basel III applies to all derivatives exposed to counterparty risk, excluding trades cleared through a qualified central counterparty and securities financing transactions. But the calculation methodology only recognises the offsetting effect of a small universe of eligible hedges used to mitigate CVA risk – primarily credit default swaps.

> "By comparison with other Basel projects, such as the FRTB, the CVA review is operating in a very compressed time frame, with less consultation and testing"
>
> *— Mark Gheerbrant, ISDA*

Incorporating market risk hedges, including interest rate or foreign exchange derivatives, had become a priority for market participants, on the basis that these trades are commonly used to manage the sensitivity of CVA to market factors, such as variations in exchange rates or interest rates.

Under the revised framework, those banks using the FRTB-CVA approach would be able to recognise a much broader range of hedges in their calculations, including market risk hedges, so long as the purpose of those transactions is to mitigate CVA risk and they are booked and managed by the bank's CVA desk. This development has been widely welcomed, although some warn that proving the link between particular hedges and CVA risk may be tough.

"The recognition of market risk hedges is a sensible addition to the framework, but the challenge is that they will need to be clearly identified as risks that are being run with the counterparty, which is not always straightforward. A bank may put on a macro market risk hedge for the overall book, for example, which might not be recognised," says the head of capital management at a European bank in London.

Materiality Threshold

Meanwhile, there is an ongoing discussion between market participants and regulators over the possible incorporation of a materiality threshold into the framework, which would address concerns about the high cost and complexity of calculations for portfolios that have little or no CVA risk.

This is becoming increasingly important for two reasons. First, the alignment of the advanced approach to CVA with the FRTB in the new framework increases the computational intensity of the calculation. Second, the rising use of central clearing and margining for non-cleared trades means that collateral will eventually be posted against the majority of derivatives transactions, meaning CVA risk will be close to zero.

"The complexity of the calculation means we could spend hundreds of millions of dollars calculating the number zero for trades that are fully or partially collateralised. What comes out of the calculation in that case doesn't justify the expense, so there does need to be a balanced materiality threshold," says Citi's Wayne.

While no such materiality threshold was included in the consultation document, the issue has been discussed with regulators at subsequent meetings, and market participants are hopeful this issue will be considered.

"Materiality is an area where we can expect a lot more discussion because the current environment of increased margining makes the CVA charge fall to a somewhat de minimis number for the majority of trades. It's important that resources are focused on the trades where CVA risk is significant, and the regulators seem to acknowledge that," says ISDA's Gheerbrant.

A further component of the review that warrants consideration is the provision that a bank wanting to apply the FRTB-CVA approach must have a CVA desk or dedicated function responsible for managing CVA, Gheerbrant adds. But many banks run multiple CVA desks to cover particular regions and products, and there is pressure for the framework to reflect that.

"The regulations should allow banks to run as many CVA desks as they need, but from a calculation perspective, they can still be grouped together, which is actually beneficial because modelling them together will generate greater diversification," says Gheerbrant.

Time Line

All of these issues point to a CVA framework that remains very much in flux. The Basel Committee review has addressed many of the main concerns that had been raised, but the proposals amount to a complete overhaul rather than a gentle tweak.

That may have been unavoidable given the inherent complexity of CVA and the problems banks have encountered with the existing rules. But it means more work and testing needs to be conducted before the framework can be put into general use, and time is in short supply.

A single QIS was conducted between July 20 and September 14, and the results – together with comments received on the consultation document – will be used to inform the final calibration. Regulators are understood to be aiming to complete the project by mid-2016 at the latest.

"By comparison with other Basel projects, such as the FRTB, the CVA review is operating in a very compressed time frame, with less consultation and testing. Our priority now is to make sure that regulators have all the resources they need to get the calibration right," says Gheerbrant. ■

INTERVIEW: STEVEN MAIJOOR, ESMA

From EMIR to EMIR Review

ESMA has spent the past few years fleshing out the detail on some of the most important financial market legislation ever to emerge from the European Parliament. The initial flurry of rule-making may be slowing, but ESMA's to-do list remains as long as ever. *IQ: ISDA Quarterly* talks to ESMA chairman Steven Maijoor about the authority's priorities for the year ahead

EMIR, MIFID, AIFMD, CSDR, MAR… the European Securities and Markets Authority's (ESMA) priority list in recent years has resembled a random draw from a Scrabble bag. But these seemingly innocuous acronyms have required ESMA to write thousands and thousands of pages of regulatory and implementing technical standards as part of its responsibility to develop detailed rules off the back of European securities market legislation. Much of this work has had to run concurrently.

In some respects, the legislative conveyor belt is starting to slow. The European Market Infrastructure Regulation (EMIR) is in force and the core technical standards are largely written. The revised Markets in Financial Instruments Directive (MIFID II) and associated regulation are also completed, and ESMA published its final draft regulatory technical standards on the topic at the end of September, as *IQ: ISDA Quarterly* was going to press.

> "I think it's right to say that liquidity has structurally changed over the past few years. That's probably because of changes in technology and regulation, and because of changes to monetary policy"

But that doesn't mean ESMA's workload will get easier any time soon. A review of EMIR is already under way, even before the first clearing mandates have come into effect. The review is being led by the European Commission (EC), but ESMA was asked to submit recommendations on several topics, which it did in August – alongside an additional set of recommendations on its own initiative.

Its EMIR proposals range from the popular to the controversial. Among the former is a recommendation to ditch the controversial frontloading requirement. This rule, unique to the European Union (EU), essentially requires derivatives users to clear certain bilateral trades conducted before a clearing mandate comes into effect. The subsequent move to central clearing could result in a change in the discounting curve used to price the trade, but the precise date of this change would not be known at the point of execution. The result is uncertainty and pricing complexity, which could deter some firms from executing hedges. ESMA had previously proposed a variety of solutions to the EC in order to minimise the uncertainty created by the frontloading obligation, but, according to Steven Maijoor, chairman of ESMA, its EMIR Review response takes it "one step further".

On the more controversial end of the scale is a recommendation to scrap a clause that allowed non-financial counterparties to disregard hedges when calculating whether they have breached a derivatives notional outstanding threshold that would require them to meet certain EMIR requirements, such as central clearing. There are various reasons for the recommendation – not least, a belief that large derivatives users could pose a systemic threat, regardless of whether they execute their trades for hedging purposes. However, Maijoor stresses that any removal of the hedging exemption would be accompanied by a lifting of the notional threshold.

ESMA is also wading into a long-running and highly charged debate over whether US clearing-house rules are equivalent to those in Europe. Negotiations between the EC and Commodity Futures Trading Commission had stalled over the merits of their respective margin methodologies for futures contracts. With the discussions apparently in deadlock, the EC surprised market participants in August by asking ESMA to explore the possibility of allowing a one-day liquidation period for futures, where margin on client accounts is calculated on a gross basis – a move that would bring Europe more in line with the US. As it stands, the European rules set a minimum two-day liquidation period for futures products, although margin can be provided on a net basis.

> "We're very aware of the consistency issues between the EU and other parts of the world, and we know this is a difficult struggle"

Maijoor refuses to be drawn on whether this indicates a compromise is imminent. But he acknowledges the significance of the issue, and says responses to the consultation will be important.

In this interview, Maijoor sets out ESMA's priorities for the coming 12 months, provides colour on the authority's proposed modifications to EMIR, and gives his thoughts on whether structural changes in liquidity pose a threat to European markets.

***IQ:* What are the priorities for ESMA for the rest of this year and into 2016?**

Steven Maijoor (SM): ESMA's programme over the past couple of years has been very much dominated by single rulebook activities. This includes EMIR, MIFID II, the Central Securities Depositories Regulation, the short selling regulation, the Alternative Investment Fund Managers Directive, and so on. So we have done a lot of rule-making. What is important for us in the years ahead is to make sure these rules work in practice – that they are applied and implemented in a consistent way, in order to get to a truly internal market in the EU. We need to ensure these rules function as they were intended: to ensure stability and investor protection.

***IQ:* Are you concerned about recent bouts of volatility and illiquidity in certain markets – for instance, US Treasury bonds, Chinese stocks and the Swiss franc? Are you satisfied that European markets are functioning efficiently?**

SM: As you can appreciate, we are in unusual times. That is partly driven by the low interest rate environment, which has all kinds of implications for markets. Changes in regulation and the capital charges for certain banking activities are also affecting the market. So we are closely monitoring and watching financial markets. At ESMA, we have really invested in looking at risks in financial markets. We have invested in data and we have invested in staff to look into these types of issues. And, obviously, liquidity issues and the volatility of markets have got our attention. At the same time, I think we need to be careful about jumping to conclusions about the precise reasons for these changes.

There are indications that liquidity has become thinner in certain parts of the market, particularly if you're looking at the number of transactions that have been conducted. On the other hand, spreads on sovereign debt have been relatively stable over the past few years. Also, if there's a liquidity issue, you would expect that investors would want to be compensated for that and would demand a higher return while yields are still very low. So, I think the evidence regarding liquidity is mixed. Some evidence points to liquidity problems, while other evidence suggests liquidity is very similar to what it was in previous years.

I think it's right to say that liquidity has structurally changed over the past few years. That's probably because of changes in technology and regulation, and because of changes to monetary policy. That includes both the low interest rate environment and the fact that central banks are now important players in the bond markets. However, we need to be careful in jumping to conclusions, first about whether this is a big problem and what the source of the problem is, but also whether a policy response is needed.

***IQ:* But the risk is that it won't be clear there's a problem until a stress event actually occurs.**

SM: It is always difficult to simulate stress events, particularly as we're in a new environment with new requirements. But that is precisely the reason why we need to be careful and not jump to conclusions. If you go back to 2006 or 2007, you can say objectively that there was more market-making activity by banks at that time, but a lot of that market-making stopped when we needed it. There were severe liquidity problems in the securitisation markets and there were liquidity issues in bond markets. So, the fact there is significant market-making activity doesn't mean it will still be there in stressed markets. The converse may also be true. It may well be that liquidity is thinner in some markets now, but that doesn't necessarily mean there will be an issue in stressed conditions.

***IQ:* The need for cross-border harmonisation is acknowledged as a key issue by both regulators and industry participants. How can the differences that currently exist between national regulations best be addressed? Is convergence a realistic aim?**

SM: We're very aware of the consistency issues between the EU and other parts of the world, and we know this is a difficult struggle. At the same time, we should recognise how far we have progressed at the European level. We have managed this problem within the EU by moving to the use of a regulation rather than a directive, by moving to supervisory colleges, and by taking central clearing decisions at the EU level. Trade execution decisions will also be taken at the EU level, and trade repositories are supervised at the EU level. That is not in any way to underestimate the problems caused by differences between the EU and other parts of the world, but we need to realise how well we've progressed within the EU. We now have a mechanism to address these supervisory convergence and coordination issues within the EU, and we have mechanisms to come up with technical standards through ESMA.

> "Overall, EMIR is a very solid piece of legislation. But whenever you make such big changes to a market, it's natural to ask whether we achieved the best outcome"

There are, though, very substantial coordination problems between the EU and the rest of the world. We need to do our utmost to solve those issues. But, at the same time, we don't have a worldwide ESMA.

So, on the one hand, we need to do our utmost to coordinate regulation and supervision, and we're doing that. We have a lot of day-to-day contact with other regulators across the world. On the other hand, I need to manage expectations of what can be achieved if we have different regulatory systems, based on sovereign national processes. There is little likelihood that what comes out of these different regulatory systems will fit perfectly together and result in a seamless global regulatory framework.

***IQ:* Is there potentially a greater role for an organisation like the**

International Organization of Securities Commissions (IOSCO) to develop globally consistent and granular standards that everyone buys into?

SM: We need to accept the fact that there is no centralised decision-making when it comes to standards for derivatives and standards for central counterparties (CCPs). That is the political reality. Given that situation, the more IOSCO can do to develop granular sets of standards before we start to regulate, the better it will be. The Committee on Payment and Settlement Systems and IOSCO *Principles for Financial Market Infrastructures* were very helpful, but the principles were relatively high level and were not sufficiently granular. Because it's not defined in a granular way in the international standards, deviations start to emerge at the national level.

One area where we have been able to come up with more granular standards is on the bilateral margining requirements. In that area, the requirements from IOSCO and the Basel Committee on Banking Supervision were more granular, and that helps to ensure the national regulations are more consistent on a global basis.

***IQ:* Negotiations between EU and US regulators over the equivalence of US clearing house rules have been ongoing for some time. ESMA recently published a discussion paper investigating whether it would be appropriate to revise regulatory standards to allow CCPs authorised under EMIR to apply a one-day liquidation period for instruments other than OTC derivatives, where margin in client accounts is calculated on a gross basis. Does this indicate a compromise is imminent?**

SM: Our most important role on this issue is to give our advice on the equivalence of third countries. We delivered that advice in the third quarter of 2013. Since then, it's been up to the EC to negotiate with these jurisdictions around the world to come to a position on whether they are equivalent or not, or whether they should be under certain conditions. As a result, it's difficult to give a view on whether an equivalence decision is imminent. That's a question for the EC, because it's the EC's decision.

Having said that, we understand the debate, and we understand how certain rules can make it more difficult to get to a solution. That is one of the reasons the consultation paper is looking into the possibility of using one-day gross margin requirements for client accounts. We see it as an issue where it is important to get feedback from stakeholders. But I'm not in the position to make a judgement and say whether a decision is imminent or not.

> "Data-quality issues are high on our agenda, and so we're working very hard with the trade repositories and with national supervisors to improve the data in the trade repositories"

***IQ:* Turning to some of the issues in ESMA's response to the EMIR Review consultation. ESMA made a number of significant recommendations, including removing the frontloading requirement and changing the process for determining the systemic importance of non-financial counterparties by not exempting derivatives used for hedging in the threshold calculation. What's the reason for these proposals?**

SM: Overall, EMIR is a very solid piece of legislation. But whenever you make such big changes to a market, it's natural to ask whether we achieved the best outcome. With hindsight, and with the experience we've had with the frontloading issue, we came to the conclusion that frontloading is a very difficult requirement. It comes back to the simple notion of uncertainty. As a result of frontloading, bilateral trades can be required to clear at some unknown point in the life of the trade. That creates pricing issues. Bilateral trades and cleared trades are typically priced using different discounting curves. So we think it is not beneficial to have this requirement. A lot of the discussion we've had with the EC on this issue has been about trying to minimise the impact of frontloading, and reduce the uncertainty. Our recommendation takes that one step further.

With regards to the hedging exemption for non-financial counterparties, it comes down to the difficulty in determining which derivatives contracts are used for hedging purposes. It can be a very difficult judgement. It also requires a lot of administration, because you need to be able to prove what is done for hedging purposes. Thirdly, there is the intellectual argument, which I support as well. You can make a strong argument that contracts conducted for hedging purposes are also relevant from a systemic perspective. It's not just the speculative trades. Even though hedging transactions are conducted for clear business reasons, they can also have stability implications.

So these three elements were the reason for giving this advice. Obviously, if we do go in that direction, then the thresholds will also need to increase substantially. So, the idea is to capture the really big players in derivatives markets, irrespective of whether the derivatives are used for hedging or not. It would also reduce administrative complexity for non-financial counterparties. But it would require an increase in the thresholds.

***IQ:* Do you have any ballpark estimate of how much the thresholds would need to increase? A doubling? A tripling?**

SM: No. The idea itself is quite far-reaching. It's more important to get that idea across and then subsequently focus on the level of the thresholds.

***IQ:* Some industry participants, including ISDA, have recommended a move to single-sided reporting in Europe to improve the accuracy of the data being reported and remove the cost and complexity of reporting for end users. This would also bring European rules more closely in line with the US. What are your thoughts on this suggestion?**

SM: In general, data-quality issues are high on our agenda, and so we're working very hard with the trade repositories and with national supervisors to improve the data in the trade repositories. There are very strong views about whether single-sided reporting or double-sided reporting is superior. Double-sided reporting provides a check on the quality of the data. Of course, there are also mechanisms to ensure quality of data in the case of single-sided reporting, but I think the reporting of both legs of the transactions provides a good check on the quality of the data. In addition, now that we have developed this system, requiring a change would incur switching costs. That's the reason we continue to favour the current system. We recognise the system is fairly heavy from an administrative perspective for smaller non-financials, so we need to look at whether there are any solutions that would help smaller non-financial companies.

***IQ:* If data validation is an important criterion, could that not be achieved through existing portfolio reconciliation and confirmation systems?**

SM: We have worked with the dual-sided system, we're now getting it right, and we're improving the quality of the data. So making the switch would not be beneficial. At the end of the day, it provides benefits in terms of the ability to check the quality of the data by getting both sides of the transaction reported.

***IQ:* The Basel Committee and IOSCO announced earlier this year that the implementation date for non-cleared margin rules would be delayed until September 2016, partly because final rules hadn't been published by national authorities. When do you expect final rules to be released, and do you think this will give market participants enough time to prepare for implementation?**

SM: The reason for postponing the deadline was to ensure market participants had more time for implementation. As you are aware, the rules do not start for all counterparties at the same time. There is a staggered system, both for variation margin and initial margin. My latest information is that we are on time with the consultations. We have consulted already twice on the technical standards, and I have no information that there will be a delay in honouring the deadlines that were agreed at the international level. We therefore expect to deliver the standards by the end of the year.

***IQ:* So, you think September 2016 is still achievable for the industry?**

SM: Considering that September is only for the largest dealers for both initial and variation margin, we are confident it can be achieved. ■

ISDA SwapsInfo Update: Notional Drops in Q2

Average daily notional volume dropped for both interest rate derivatives and credit default swap indices in the second quarter of 2015, but the proportion traded on electronic trading venues remained more or less steady, according to the latest ISDA SwapsInfo.org analysis

AVERAGE DAILY NOTIONAL volume in both interest rate derivatives (IRD) and credit default swap (CDS) indices dropped on a year-on-year and quarter-on-quarter basis in the three months to June 30, 2015. But the proportion of notional volume that was traded on a swap execution facility (SEF) and cleared through a central counterparty held relatively steady over the period, according to an analysis of trade information reported to US swap data repositories compiled by ISDA SwapsInfo.org[1].

SEF trading accounted for 56.4% of total IRD average daily notional volume in the second quarter, a slight increase from the 54.9% and 54.5% levels recorded in the second quarter of 2014 and first quarter of 2015, respectively. In comparison, SEF trading of CDS indices was marginally lower, at 65.2% versus 70.7% in the previous quarter. Despite the drop, SEF trading represents a higher proportion of overall notional volume than it did in the second quarter of 2014.

Clearing also remained steady, accounting for roughly three quarters of total average daily notional volume in both the IRD and CDS index space. That compares with 72.5% for IRD and 80.6% for CDS indices in the first quarter of this year.

The drop in total average daily notional volume was fairly modest in the IRD space, declining by 6.4% on a year-on-year basis and 3.8% over the quarter. It was more marked for CDS indices, however. While more or less flat compared with the second quarter of 2014, average daily CDS index notional volume fell by 18.4% over the quarter.

The following analysis provides a high-level summary of trends in the second quarter. More detailed analysis can be found at ISDA SwapsInfo.org.

AT A GLANCE

74.7% of average daily IRD notional volume was cleared in the second quarter of 2015.

More than half of average daily IRD trading activity – 56.4% by notional volume – was executed on a SEF during the second quarter.

Second quarter average daily IRD notional volume fell by 6.4% compared with the same period in 2014, and dropped by 3.8% versus the first quarter of 2015.

In the CDS index market, 74.6% of average daily notional volume was cleared in the second quarter.

SEF trading accounted for 65.2% of average daily CDS index notional volume.

Total average daily CDS index notional volume was largely unchanged versus the second quarter of 2014, but fell by 18.4% compared with the first quarter of 2015.

1. ISDA SwapsInfo is available at www.swapsinfo.org. The site compiles data reported to the Bloomberg and Depository Trust & Clearing Corporation swap data repositories

CHART 1: IRD AVERAGE DAILY TRADE COUNT: TOTAL, SEF, BILATERAL

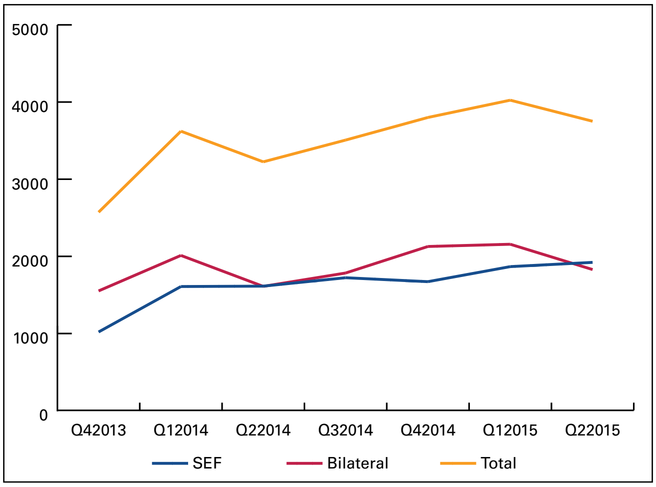
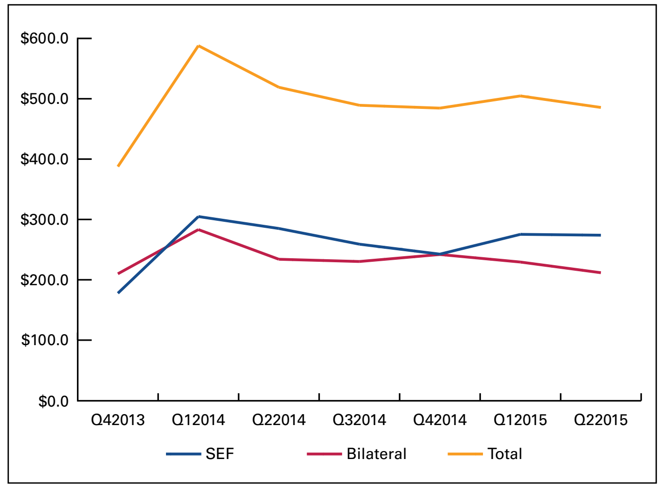


CHART 2: IRD AVERAGE DAILY NOTIONAL VOLUME (US$ BILLIONS): TOTAL, SEF, BILATERAL



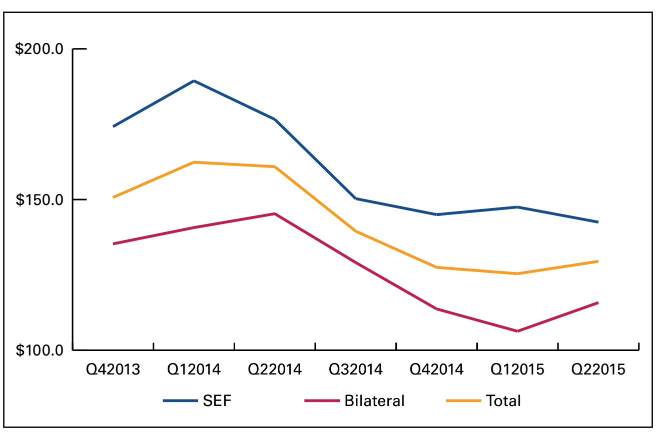
IRD Trade Count (Chart 1)

- Average daily IRD trade counts in the second quarter of 2015 rose by 16.3% compared to the same period a year ago, but declined by 6.8% versus the first quarter of 2015.
- SEF trading accounted for 51.2% of the total average daily trade count in the second quarter of 2015, compared to 50% in the same period a year ago and 46.4% in the first quarter of 2015.
- SEF average daily trade counts rose by 19.1% in the second quarter of 2015 compared with the same period a year earlier, and increased by 2.9% compared to the first quarter of 2015.

IRD Notional Volume (Chart 2)

- Average daily notional volume fell by 6.4% in the second quarter of 2015 compared with the same quarter a year ago, and declined by 3.8% versus the first quarter of 2015.
- SEF average daily notional volume represented 56.4% of total volume in the second quarter of 2015, compared with 54.9% in the second quarter of 2014 and 54.5% in the first quarter of 2015.
- SEF average daily notional volume decreased by 3.9% in the second quarter of 2015 compared with the same period a year prior, and fell by 0.5% compared with the first quarter of 2015.

CHART 3: IRD AVERAGE TRADE SIZE (US$ MILLIONS): TOTAL, SEF, BILATERAL



IRD Trade Size (Chart 3)

- Average IRD trade size declined by 19.5% in the second quarter of 2015 compared to the same period a year ago, but increased by 3.3% from the first quarter of 2015.
- SEF trade size declined by 19.3% in the second quarter of 2015 compared with the same period a year ago, and fell by 3.4% compared with the first quarter of 2015.
- Bilateral trade size declined by 20.3% in the second quarter of 2015 compared with the second quarter of 2014, but rose by 8.9% versus the first quarter of 2015.

CHART 4: IRD AVERAGE DAILY TRADE COUNT: TOTAL, CLEARED, NON-CLEARED

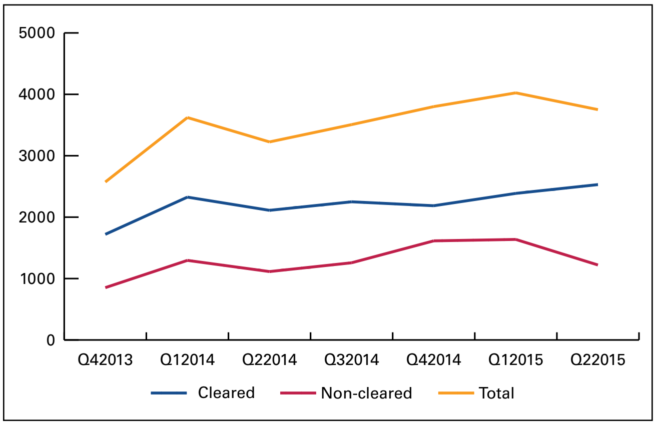
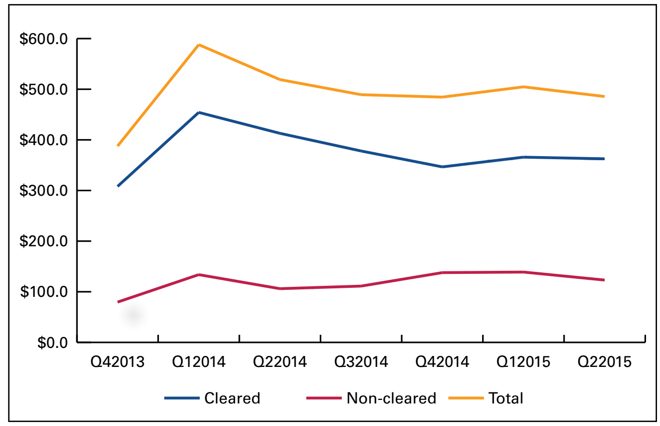


CHART 5: IRD AVERAGE DAILY NOTIONAL VOLUME (US$ BILLIONS): TOTAL, CLEARED, NON-CLEARED



IRD Cleared Trade Count (Chart 4)

- Cleared IRD trade counts represented 67.4% of total average daily trading activity in the second quarter of 2015, compared with 65.5% in the same period a year ago and 59.3% in the first quarter of 2015.
- Average daily cleared trade counts increased by 19.8% in the second quarter of 2015 versus the same period a year ago, and rose by 6% compared with the first quarter of 2015.

IRD Cleared Notional Volume (Chart 5)

- Cleared average daily IRD notional volume represented 74.7% of total notional in the second quarter of 2015, compared to 79.6% during the corresponding period in 2014 and 72.5% in the first quarter of 2015.
- Average daily cleared notional volume fell by 12.2% in the second quarter of 2015 compared with the same period in 2014, and declined by 0.9% compared with the first quarter of 2015.

CHART 6: CDS INDEX AVERAGE DAILY TRADE COUNT: TOTAL, SEF, BILATERAL

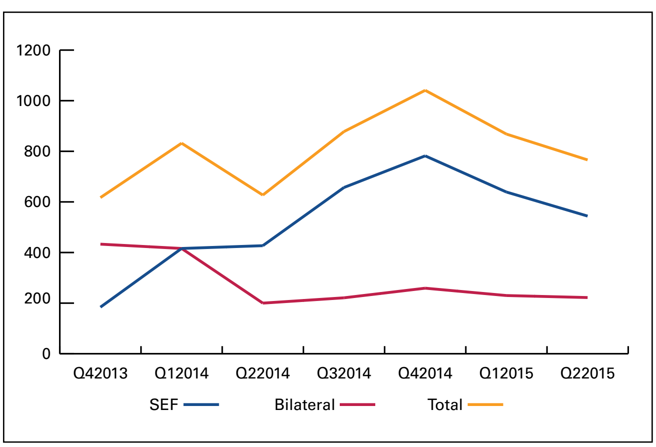
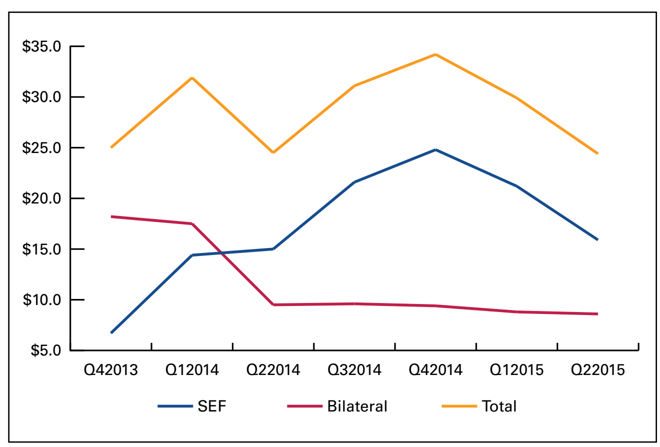


CHART 7: CDS INDEX AVERAGE DAILY NOTIONAL VOLUME (US$ BILLIONS): TOTAL, SEF, BILATERAL



CDS Index Trade Count (Chart 6)

- Average daily CDS index trade counts rose by 22.2% in the second quarter of 2015 compared with the same period in 2014, but fell by 11.8% versus the first quarter of 2015.
- SEF trades represented 71% of the total CDS index average daily trade count in the second quarter of 2015, compared with 68.1% in the second quarter of 2014 and 73.5% in the first three months of this year.
- SEF average daily trade counts rose by 27.4% during the second quarter of 2015 compared with the same period a year earlier, but fell by 14.9% compared with the first quarter of 2015.

CDS Index Notional Volume (Chart 7)

- Average daily CDS index notional volume was flat in the second quarter when compared with the same period a year earlier, but decreased by 18.4% compared with the first quarter of 2015.
- SEF notional volumes comprised 65.2% of the total average daily CDS index notional in the second quarter of 2015, compared with 61.2% in the second quarter of 2014 and 70.7% in the first three months of 2015.
- SEF average daily notional volume rose by 6% in the second quarter of 2015 compared with the same period a year earlier, but decreased by 25% compared with the first quarter of 2015.

CHART 8: CDS INDEX AVERAGE TRADE SIZE (US$ MILLIONS): TOTAL, SEF, BILATERAL

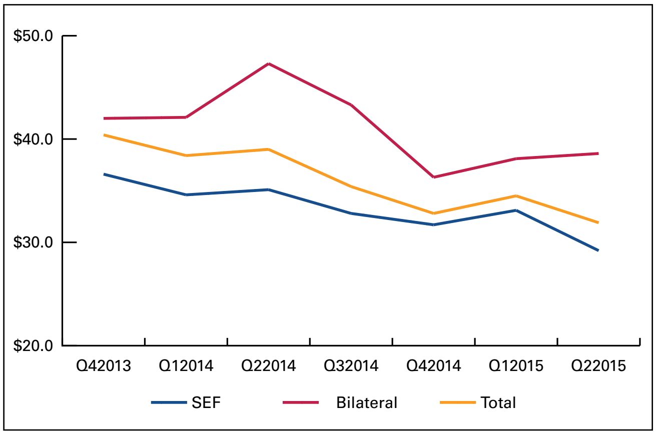
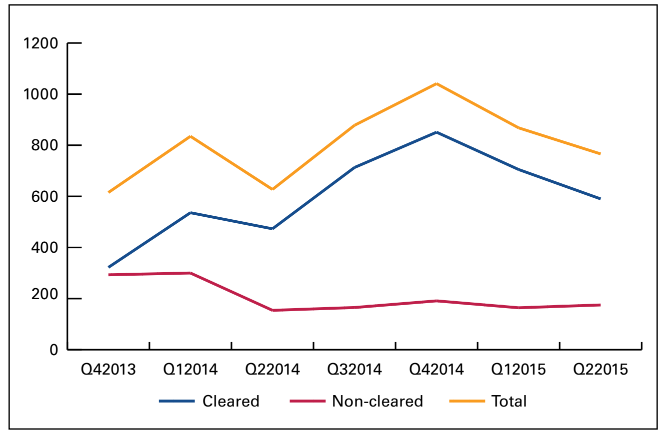


CHART 9: CDS INDEX AVERAGE DAILY TRADE COUNT: TOTAL, CLEARED, NON-CLEARED



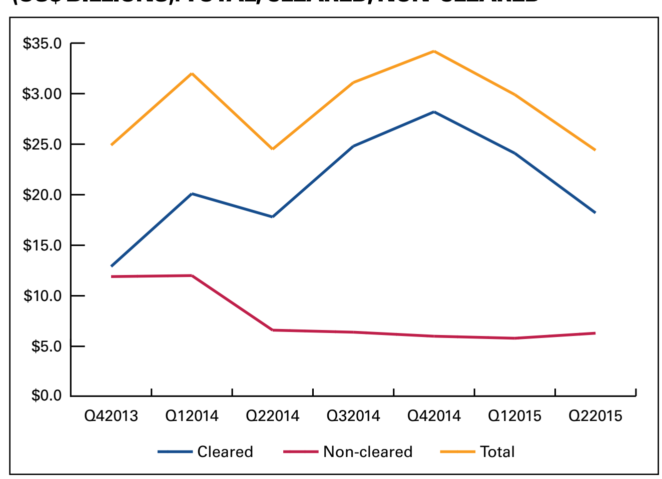
CDS Index Trade Size (Chart 8)

- Average CDS index trade size fell by 18.2% in the second quarter of 2015 compared with the second quarter of 2014, and declined by 7.5% versus the first quarter of 2015.
- SEF trade size fell by 16.8% during the second quarter of 2015 compared with the same period in 2014, and declined by 11.8% versus the first quarter of 2015.

CDS Index Cleared Trade Count (Chart 9)

- Cleared trades represented 77% of the total average daily CDS index trade count in the second quarter of 2015, compared to 75.4% in the same period in 2014 and 81.2% during the first quarter of 2015.
- Average daily cleared trade counts increased by 24.7% during the second quarter of 2015 compared to the same period in 2014, but decreased by 16.3% versus the first quarter of 2015.
- Non-cleared trade counts increased by 13.6% in the second quarter of 2015 compared to the same period a year ago, and rose by 6.7% compared with the first quarter of 2015.

CHART 10: CDS INDEX AVERAGE DAILY NOTIONAL VOLUME (US$ BILLIONS): TOTAL, CLEARED, NON-CLEARED



CDS Index Cleared Notional Volume (Chart 10)

- Cleared CDS index trades represented 74.6% of total average daily notional volume in the second quarter of 2015, compared to 72.7% in the second quarter of 2014 and 80.6% in the first three months of 2015.
- Cleared average daily notional volume rose by 2.2% in the second quarter of 2015 compared with the second quarter of 2014, but fell by 24.5% compared with the first quarter of 2015.
- Non-cleared notional volume declined by 4.5% in the second quarter of 2015 compared with the same period in 2014, but rose by 8.6% versus the first quarter of 2015.

10 QUESTIONS WITH…

Emmanuel Vercoustre

Emmanuel Vercoustre, deputy chief executive officer and chief financial officer at AXA Bank Europe, gives his perspective on being a buy-side member of the ISDA board

1 **IQ: What have you spent most of your time on at work over the past month?**

Emmanuel Vercoustre (EV): I am now deputy chief executive officer of AXA Bank Europe, based in Belgium. AXA Bank Europe is a pure retail bank with a large network in Belgium, so I have spent a lot of time helping to set the strategic priorities and executing a transformation plan for the bank to become a fair, attentive, simple and transparent organisation. AXA Bank is also a derivatives hub for the AXA group. AXA is a large buyer of derivatives, mostly for hedging purposes, through its insurance and banking entities, and its two asset managers (AXA Investment Managers and Alliance Berstein). For example, the AXA insurance companies use derivatives (both bilateral and cleared) to hedge the financial guarantees offered to their clients via variable annuity products. As a derivatives hub, AXA Bank Europe is able to leverage all the execution, booking, reporting, legal and clearing capabilities and expertise it has established. This is very beneficial, as it avoids duplication in infrastructure and processes. The regulatory exemption for intra-group trades also means we reduce counterparty exposure and the overall liquidity and market impact of the group.

With ISDA, I am involved as a representative of the buy side at the board level. I also participate on the nominations committee, which selects new board members and considers whether changes are needed to the composition of the board to ensure a balanced representation of all stakeholders.

2 **IQ: What are the three biggest challenges facing the derivatives market at the moment?**

EV: One of the biggest challenges is bringing the regulatory and popular distrust of derivatives to a halt – or, at the very least, improving the negative view of derivatives. Derivatives are still far too often seen as contributing to the overall risk of the financial system when, in fact, they vastly help to reduce risks. They provide important benefits to end users (mutual funds and retail, institutional and corporate clients) that seek protection from market movements and volatility. Yes, derivatives were insufficiently regulated, and the structure of the market needed to be overhauled in the wake of the financial crisis. But the avalanche of compliance, liquidity, capital and – potentially – tax constraints has to pause and eventually be set at a level that is more commensurate with the underlying risks. The risk is that end users will no longer be able to find tailored solutions to hedge their financial risks at the right price. ISDA is playing a tremendous role in balancing the risks and the corrective measures to help ensure we get to the right level.

The second biggest challenge is the solvency and liquidity requirements imposed on banks that trade or use derivatives. Credit valuation adjustment charges and leverage exposure requirements are increasing. Prudential buffers are being layered on other prudential buffers, add-ons, double counting and local regulator discretions. This makes derivatives progressively less economic, and potentially makes it less attractive to hedge. This is particularly true for bespoke derivatives, which are needed by end users to hedge their risks with precision and avoid accounting volatility. A global cost-benefit analysis would be useful at this stage.

The third challenge is the gradual move to clearing and the concentration of exposures within clearing houses. Overall, this move is very beneficial for the market, but it raises questions about the resilience and robustness of these institutions and the protection they provide. There are also questions about the risk and governance mechanisms that need to be put in place – in particular, on the stress-testing of central counterparties – as well as the recovery and resolution protocols that need to be established.

3 *IQ:* Will the derivatives markets look different in five years' time? How?

EV: Yes, absolutely. The move to central clearing and the introduction of margin requirements for non-cleared derivatives mean the market will be very different. The non-cleared margin requirements, in particular, will be challenging for market participants, both in terms of the amount of liquidity that will need to be set aside and the calculation of the initial margin that needs to be exchanged. Regulators have proposed a standard look-up table, but this has been set at a very conservative level. The alternative is for each firm to develop its own internal model, which comes with other challenges – not least, how to ensure counterparties are able to agree on the amounts that need to be exchanged. As a result, market participants are working with ISDA to develop a standard initial margin model, or ISDA SIMM. This will produce a more risk-sensitive result in terms of margin required, and will help reduce the number of disputes between counterparties.

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

EV: I've served on the board since June 2011. At the time, I was in charge of finance, risk and strategy at AXA Investment Managers, but I remained on the ISDA board when I moved internally to AXA Bank Europe. I am very proud of the role played by ISDA in making the markets safer and more efficient. This is supported by the ever-growing number and diversity of firms that join as members – there are now over 850 member institutions from 68 countries.

5 *IQ:* What is ISDA's biggest achievement since you've been involved with the association?

EV: In my view, ISDA played a tremendously important role during the drafting and implementation of Title VII of the Dodd-Frank Act and the European Market Infrastructure Regulation. The association was very active in working with regulators to highlight areas of uncertainty and flag where fine-tuning was required, as well as helping market participants through the huge legal, documentation and technological implementation challenges. The success of ISDA Amend, used by almost 60,000 legal entities, exemplifies what ISDA has delivered and will continue to deliver to market participants.

6 *IQ:* Do you think the buy side's voice is heard within ISDA?

EV: Yes, the board has been very attentive in recent years in ensuring the composition of the board reflects the diversity of stakeholders. There are currently five board members with a buy-side background. That compares to none in 2009. I should stress, though, that it is the duty of each board director to ensure his or her views reflect the interests of the derivatives market as a whole, and not any one group. The same holds true for the working groups.

7 *IQ:* How did you get to be involved with derivatives?

EV: Back in 1986, then at Crédit Commercial de France in London, where I was in charge of sterling swap-trading activity. It seems like a century ago!

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

EV: Maybe doing the flying trapeze in a circus (this used to be my main hobby!). But more probably, and more realistically now, acting as a professional mediator, helping to solve contractual disputes. Or sailing, which happens to be one of my passions. Or running an antique shop. In many respects, I'm glad I'm working in the financial markets, as I would have to make some very hard choices otherwise!

9 *IQ:* What's your favourite movie – and why?

EV: Cyrano de Bergerac. A fantastic play by Edmond Rostand and outstanding acting by Gerard Depardieu.

10 *IQ:* Tell us something interesting about yourself.

EV: Beyond the very technical and sometimes dry nature of the domain in which I am involved – financial products, numbers, legal complexity – I thoroughly enjoy the human side of my role: working with others, managing and leading teams, and bringing the best out of a team. ■

Dodd-Frank: Five Years On

This year marked the fifth anniversary of the enactment of the Dodd-Frank Act. How much progress has been made in implementing the derivatives reforms contained in the legislation? And what remains left to do?

A FIVE-YEAR ANNIVERSARY is a good time to pause, reminisce and reflect. Has everything gone to plan? Were the early teething problems just that – teething problems? Are there any recurring issues that need to be resolved?

These were the kinds of questions being asked of the Dodd-Frank Act as it reached its five-year birthday earlier this year. In the run-up to July 21, a succession of Congressional hearings, media articles and analyst reports all asked the same thing: five years on, has the Dodd-Frank Act been a success?

The general consensus was 'yes' – but with some caveats. The 848-page piece of legislation was intended to reduce the potential for future financial crises and end the perception that large financial institutions are too big to fail. In doing so, it touched virtually all aspects of the US financial system, from bank resolution, derivatives regulation and bank structure, to regulatory oversight, executive compensation and investor and consumer protection.

Progress in implementing the derivatives requirements contained within Title VII of the legislation are particularly marked (see Table A). A large proportion of the interest rate and credit derivatives market is now cleared, increasing volumes are being traded on swap execution facilities (SEFs), and all swaps involving US entities are required by the Commodity Futures Trading Commission (CFTC) to be reported to swap data repositories (SDRs).

But challenges exist. In particular, concerns have been raised about lack of coordination with overseas rules, and the cross-border challenges this has posed. This article summarises the progress made to date in implementing the Dodd-Frank requirements, and outlines some of the remaining issues.

Clearing

The first Dodd-Frank clearing obligations were introduced by the CFTC in 2013 for certain interest rate and credit derivatives classes. Today, a large proportion of the interest rate derivatives and credit default swap (CDS) index market is centrally cleared. For interest rate derivatives, 76.5% of average daily notional volume was cleared over the whole of 2014, according to information from the Bloomberg and Depository Trust & Clearing Corporation SDRs compiled by ISDA SwapsInfo.org. The high proportion of cleared trades has continued into 2015, with 72.5% of notional volume cleared each day on average in the first quarter of 2015, increasing to 74.7% in the second quarter.

It's a similar story in the CDS index market. According to ISDA SwapsInfo analysis, 74.7% of daily average notional volume was cleared over the course of 2014. That proportion increased to 80.6% over the first three months of 2015, but fell slightly to 74.6% in the three months to June 30.

The volume of cleared trades is likely to increase over time as clearing houses expand their product offerings and clearing mandates come into force in other jurisdictions. Nonetheless, certain instruments are likely to remain outside of clearing. Regulators have said they will consider the depth of the market, availability of prices and number of clearing members when making clearing obligation determinations – criteria that may not be met for certain instruments, currencies and maturities. Exemptions to the clearing mandate also exist for commercial end users.

Dodd-Frank recognises there is a place for customised, less liquid instruments to enable counterparties to closely hedge specific risks. As such, it acknowledges the need for non-cleared derivatives and

AT A GLANCE

The Dodd-Frank Act was signed into law five years ago, on July 21, 2010.

Significant progress has been made in implementing the derivatives requirements within Dodd-Frank, particularly in the areas of trading, clearing and reporting.

Today, approximately 75% of interest rate derivatives average daily notional is cleared, and more than 55% is traded on a SEF.

But a number of challenges have emerged, largely caused by a lack of harmonisation in cross-border rules.

Given the implementation of comparable rules elsewhere, there is now an opportunity to harmonise the regulations across jurisdictions to facilitate cross-border trading.

requires regulators to set capital and margin requirements for them.

Trade Execution

The CFTC's SEF rules were introduced on October 3, 2013, and the first interest rate and credit derivatives products were required to be traded on these venues from February 14, 2014, having been classified as 'made available to trade' (MAT).

Since the introduction of the first SEF mandates, the proportion of derivatives transactions that are executed on these platforms has increased rapidly in both the interest rate and credit derivatives sectors. According to US SDR data compiled by ISDA SwapsInfo.org, 52.4% of average daily interest rate derivatives notional volume was SEF traded in 2014, up from negligible levels before the trading mandates came into force. That proportion increased slightly in the first half of 2015, rising to 54.5% in the first quarter and 56.4% in the next three-month period.

SEF trading also accounted for a high proportion of CDS index average daily notional volume: 62.5% over the whole of 2014, and 70.7% in the first quarter of 2015. That fell slightly to 65.2% in the second quarter.

> Despite the significant progress in transparency and risk management practices that have been spurred by Dodd-Frank, a number of challenges remain to be resolved

Reporting

The first US reporting obligations for swaps came into force on December 31, 2012, starting with interest rate and credit derivatives trades conducted by swap dealers (SDs) and major swap participants (MSPs). By the end of 2013, all traded swaps instruments were required to be reported under CFTC rules. Regulators have full access to this information, giving them the ability to drill down to the individual trade or counterparty level. Regulators in theory can also aggregate this data, enabling them to observe broader trends and/or concentrations in the market that may pose a systemic threat.

Along with regulatory transparency obligations, Dodd-Frank requires certain derivatives transaction and pricing data to be reported to an SDR and made publically available "as soon as technologically practical" after execution, subject to a delay for trades with large notional amounts (ie, block trades).

Regulation of SDs and MSPs

The Dodd-Frank Act created two categories of swaps participant for those firms with high levels of trading activity – SDs and MSPs. These entities had to register with the CFTC from December 31, 2012, and are required to meet a number of regulatory requirements, including:

- **Margin requirements:** Dodd-Frank recognises there is a place for bespoke derivatives instruments that enable corporate and financial institution end users to closely match and offset risks. It also acknowledges that less liquid derivatives instruments, currencies and/or maturities may not be suitable for clearing. Clearing houses typically consider the depth of the market, liquidity and availability of prices,

TABLE A

TITLE VII PROGRESS – AT A GLANCE

Issue	Dodd-Frank Requirement	Progress
Clearing	The Commodity Futures Trading Commission (CFTC) and Securities and Exchange Commission can mandate a derivatives class for clearing (the relevant authority depends on whether the derivative instrument is classed as a 'swap' or 'security based swap'), so long as it is accepted for clearing by an authorised derivatives clearing organisation.	The CFTC's first clearing mandates came into force in 2013. Approximately three quarters of interest rate derivatives and credit default swap (CDS) index average daily notional volume is now cleared.
Trade execution	Cleared derivatives must be traded on a regulated exchange or a so-called swap execution facility (SEF), so long as those instruments are made available to trade by an exchange or SEF.	The first trading mandates under the CFTC's SEF rules were introduced in February 2014. More than half of interest rate derivatives and 65% of CDS index average daily notional volume is now SEF traded.
Reporting	Information relating to any derivatives transaction must be reported to an authorised swap data repository (SDR) for regulatory reporting. Certain pricing and transaction data also has to be publicly reported.	Under CFTC rules, all swaps involving a US person are now required to be reported to US SDRs, giving regulators full transparency down to the counterparty level.
Regulation of swap dealers (SDs) and major swap participants (MSPs)	Swap market participants must register with regulators if they meet the criteria for an SD or MSP. These entities are required to meet a variety of obligations relating to business conduct, capital and margin, reporting and record keeping.	104 firms have registered with the CFTC as SDs. Capital and margin rules are close to finalisation.

TABLE B

TITLE VII – AREAS OF FOCUS	
Issue	**To be Addressed**
Cross-border harmonisation	Markets are fragmenting as a result of duplicative requirements and inconsistencies in global rule sets, reducing liquidity and choice and increasing costs for end users. Greater harmonisation of national rules is required, alongside a transparent process for determining equivalence based on broad outcomes. This should be completed within a specified time fame. Organisations like the International Organization of Securities Commissions can play a role in developing granular standards and monitoring for consistent compliance.
Clearing	Central counterparties have become systemically important. More work is needed to ensure they are resilient – for example, through greater transparency on margin methodologies and standards for stress tests. Further regulatory input is also required on acceptable recovery tools and the conditions for resolution that do not involve use of public money.
Commercial end users	Legislative action is needed to make clear that end users that hedge through centralised treasury units (CTUs) in order to net and consolidate their hedging activities are eligible for the clearing exemption. Many CTUs classify as financial entities under Dodd-Frank, subjecting them to clearing requirements. While the CFTC has issued no-action relief, legislation clarifying that end users using these efficient structures are exempt would provide greater certainty.
Trade execution	Targeted amendments of US SEF rules – for instance, allowing greater flexibility in execution methods in certain cases – would encourage more trading on these venues and help facilitate cross-border harmonisation. Further refinements, including to the MAT determinations process (the CFTC should make the final decision following a short public consultation, and a new mechanism should be introduced to allow a SEF or SEF user to petition for the removal of a MAT determination if liquidity conditions change) would also help eliminate incongruities, as would changes to the block trade rules (removal of the requirement for block trades to be executed away from SEFs).
Reporting	Regulators are unable to gain a clear picture of global risk exposures and possible concentrations because of differences in reporting requirements within and across borders. Regulators across the globe need to identify and agree on the trade data they need to fulfil their supervisory responsibilities, and then issue consistent reporting requirements. The Dodd-Frank SDR indemnification requirements should be repealed to foster greater cross-border sharing of data. Further work is also needed by the industry and regulators to develop and then adopt standardised product and transaction identifiers, as well as reporting formats. ISDA has played a leading role in this area through its taxonomies, FpML reporting standard and unique trade identifier prefix service (UTIPrefix.org), among other things.
Regulation of SDs and MSPs	Despite the requirement to register with the CFTC as SDs or MSPs from December 31, 2012, all firms remain provisionally registered. Likewise, all SEF and SDR registrations are provisional. Final registration is needed so these firms can put an end to regulatory doubt.
Margin	ISDA has been leading industry implementation efforts – for example, through the development of the ISDA Standard Initial Margin Model (ISDA SIMM), a common calculation engine for computing initial margin requirements, which will reduce the potential for disputes. Adequate time should be given to testing the necessary models, documentation and infrastructure. Achieving global consistency in the rule sets is imperative. For example, proposals from US prudential regulators would subject transactions between affiliates of the same financial group to margin requirements, putting financial institutions operating in the US at a competitive disadvantage internationally.
Capital	Capital rules should be globally consistent to prevent financial institutions and non-financial corporates in one jurisdiction being put at a competitive disadvantage. Regulation should be coherent and proportionate to the risk of a given activity. The interplay of the various regulatory components should be comprehensively assessed to ensure the cumulative impact is fully understood to avoid excessively high financing costs for borrowers and increased hedging costs for end users.

among other factors, when deciding whether to clear a derivatives instrument – criteria also considered by regulators when deciding whether to apply a clearing mandate. Some highly customised and/or illiquid derivatives sub-classes don't meet those requirements.

As a result, the Dodd-Frank Act requires regulators to set margin requirements for non-cleared derivatives to mitigate risk. These rules are now close to being implemented. The Basel Committee on Banking Supervision and International Organization of Securities Commissions (IOSCO) published a final global margining framework in September 2013, which calls for eligible counterparties to post initial and variation margin on non-cleared derivatives trades. US prudential regulators and the CFTC published separate national-level proposals in September 2014, and final rules are expected to be released soon, with a phased implementation from September 2016.

• **Capital requirements:** Dodd-Frank requires swap dealers to be subject to strict capital requirements to mitigate risk. A key driver has been a desire to incentivise clearing through higher capital requirements for non-cleared trades. Changes to the capital rules have been agreed at a global level through the Basel Committee, and involve increased bank capital requirements, higher-quality capital, enhanced market risk rules, greater focus on counterparty credit risk, new liquidity requirements, a leverage ratio and a capital surcharge for systemically important banks. The Basel Committee has set a phase-in schedule from 2013 through to 2019.

• **Business conduct standards:** SDs and MSPs are subject to a variety of other obligations covering external business conduct (eg, know-your-counterparty and fair dealing requirements, and obligations to disclose material risks of a swap), documentation (eg, swap trading relationship documents), internal business conduct (eg, confirmation standards, portfolio reconciliation, written policies and procedures for compression) and record keeping.

> Substituted compliance determinations based on broad outcomes would maximise the potential for cross-border harmonisation

What Now for Title VII?

Despite the significant progress in transparency and risk management practices that have been spurred by Dodd-Frank, a number of challenges remain to be resolved. In particular, little attention was paid to coordination and cooperation with overseas regulators in order to harmonise global rule sets. As a result, a number of differences have emerged in the timing and substance of derivatives regulations in individual jurisdictions. Rather than being subject to multiple, potentially inconsistent requirements, derivatives users are increasingly choosing to trade with counterparties in their own jurisdictions. The result is a fragmentation of liquidity pools along geographic lines, which reduces choice, increases costs, and will make it more challenging for end users to enter into or unwind large transactions, particularly in stressed markets.

ISDA research shows 87.7% of regional European interdealer volume in euro interest rate swaps was traded between European dealers in the fourth quarter of 2014, compared with 73.4% in the third quarter of 2013. The change in trading behaviour coincided with the introduction of US SEF rules, which encouraged non-US entities to avoid trading mandated products with US counterparties, so as not to be required to trade on a CFTC-registered SEF that offers restrictive methods of execution for these instruments. US entities, conversely, are unable to access the most liquid pool for euro interest rate swaps, which is centred in Europe, away from SEFs.

To avoid liquidity fragmentation, regulators should work to harmonise rule sets as far as possible, particularly in clearing, trading and reporting. US counterparties should be allowed to apply overseas rules when trading in non-domestic jurisdictions, so long as the overseas regulatory regime is deemed to be equivalent to US regulations. A transparent substituted compliance mechanism based on broad outcomes, rather than a granular rule-by-rule comparison, would help minimise the problems caused by cross-border discrepancies.

A number of other issues stem from a lack of cross-border harmonisation, including challenges faced in obtaining accurate aggregated data, the absence of a European equivalence decision for US clearing houses and compliance challenges in the implementation of non-cleared margin rules (see Table B).

Conclusion

US legislators moved quickly to draw up and finalise the Dodd-Frank Act in response to the financial crisis. Five years on from its enactment, the vast majority of the key requirements on derivatives have been implemented. The first US clearing mandates, for example, were introduced in 2013. All swaps transactions involving a US person are now required by the CFTC to be reported to SDRs, and SEF trading volumes increased rapidly following the first MAT determinations in 2014.

But this first-mover status has also created problems. The speed with which the legislation was drawn up meant little time was given to coordination and cooperation with non-US legislators. Differences in implementation schedules and in the substance of the regulation in different jurisdictions have emerged as a result.

With other jurisdictions now developing or implementing comparable rules, there is now an opportunity to harmonise the various regulations to facilitate cross-border trading.

Critical to this initiative is an effective and transparent substituted compliance framework. Efforts to achieve equivalence between jurisdictions have foundered on several occasions because regulators have conducted a granular, rule-by-rule comparison of the requirements. Substituted compliance determinations based on broad outcomes would maximise the potential for cross-border harmonisation. ■

A Call for Harmonisation

What are the major challenges facing regulatory reporting? Can data reporting requirements be reconciled across jurisdictions? *IQ: ISDA Quarterly* asked four leading trade repository operators for their views

THE PARTICIPANTS:			
❑ **Jonathan Thursby**, executive director, global head, CME Repository Services	❑ **Marisol Collazo**, managing director and chief executive officer, DTCC Data Repository US	❑ **Colin Pou**, head of payment systems operation, Hong Kong Monetary Authority	❑ **Bruce Tupper**, president, ICE Trade Vault

***IQ:* Differences have emerged in the regulatory reporting requirements in different jurisdictions. What challenges does this pose for a repository?**

Jonathan Thursby, CME Repository Services: Across CME Group's trade repositories (TRs) in the US, the European Union (EU) and Canada, and with plans for Asia-Pacific expansion, we've seen all the different possible reporting requirements. Running a single global technology platform allows us to basically mix and match features for each new TR. The real issue is the burden on reporting participants. Each and every firm must implement highly complex rules into their deal systems regarding when to report and to which jurisdiction. There are also differing data fields, each with their own prescribed values, conditions and timing. And in the EU, inclusion of exchange-traded derivatives has proven to be a unique and added challenge. Removing this requirement would be in line with the other global reporting regimes and the goals of over-the-counter (OTC) derivatives reform.

Marisol Collazo, DTCC Data Repository US: The derivatives reporting regimes that emerged following the 2008 financial crisis were developed along regional lines, which created a fragmented and inconsistent set of reporting requirements globally. These divergences are making efforts to aggregate and access data across jurisdictions challenging, thereby limiting regulators' ability to identify potential systemic risks on a global basis – a key transparency goal outlined by Group of 20 (G-20) leaders during the 2009 Pittsburgh Summit. In addition, significant legal barriers exist that limit data sharing among regulators. These barriers, such as Dodd-Frank's indemnification provisions, need to be removed before data can be aggregated and analysed at a cross-border level.

Colin Pou, Hong Kong Monetary Authority: Variations in regulatory reporting requirements across jurisdictions arise from the different purpose and scope of regulations, different timetables for implementation, and divergent standards and market practices for reporting. The Hong Kong Trade Repository (HKTR) is developed and operated by the Hong Kong Monetary Authority, and collects and provides derivatives transaction information for regulators in Hong Kong to carry out

> "We may see some consolidation, as it is part of the natural business cycle, and some repository providers will likely seek mergers or partnerships to better manage their operational costs"
>
> *— Bruce Tupper, ICE Trade Vault*

their market surveillance and supervision responsibilities. This helps maintain stability of the financial system in Hong Kong. While the main focus of the HKTR is to develop and operate the system to meet the needs of local regulators and the regulatory reporting requirements imposed by them, the HKTR recognises that differences in reporting standards, including different reportable data fields and market practices across jurisdictions, pose significant challenges to all TRs. This makes it difficult for the systems of industry participants, middleware providers (eg, electronic confirmation platforms) and TRs to connect with each other, requiring redevelopment.

Bruce Tupper, ICE Trade Vault: Market participants must comply with different reporting requirements in different jurisdictions because global standards have not yet been established. As a repository provider, we must develop and maintain unique systems by jurisdiction to meet the various reporting approaches (eg, US single-sided reporting and EU dual-sided reporting). Subsequently, market participants are required to manage multiple workflows and systems to successfully fulfil their global reporting obligations. This outcome is true even when a reporting party selects one global repository provider.

With global regulators adopting different reporting formats (eg, fields and data values), aggregation across jurisdictions is a difficult exercise, as best illustrated by the reporting of cleared transactions. Under the Commodity Futures Trading Commission's (CFTC) rules, clearing houses directly report their open interest to repositories as part of their central role. Under the European Market Infrastructure Regulation (EMIR), clearing members and market participants have additional reporting obligations, as derivatives are represented by two legs (eg, central counterparty to clearing member and clearing member to customer). We are supportive of the CFTC's proposed rule amendment to Part 45 that clarifies the reporting of cleared transactions and designates clearing houses as the sole reporting party.

***IQ:* Reporting formats and data fields differ across repositories. What can be done to resolve this, and what role, if any, should regulators play?**

Jonathan Thursby, CME Repository Services: TRs establish reporting formats to serve market demand and the needs of their client base. CSV has emerged as the preferred method of reporting for most jurisdictions, and is supported by most TRs for its simplicity and open nature. In other instances, a TR's supported formats are often an extension of technologies already present within their clients and in connection with other services, and that's a benefit to those clients. Formats are not a challenge, and we would prefer regulatory focus on other issues such as data fields.

On data fields, the challenge is two-fold – the need for more exacting regulatory guidance on how to populate each field, and collaboration among regulators to achieve global consistency. Work in these areas by the International Organization of Securities Commissions (IOSCO) is critical. It will take patience, however, as the fields will be addressed in phases and then must be adopted through amended rules by each regulator.

Marisol Collazo, DTCC Data Repository US: Due to the fragmented nature of reporting rules, there is a lack of harmonised global data standards across jurisdictions and trade repository providers. Without a common vocabulary, trade repositories are unable to share and aggregate data on a global scale. Data standardisation requires a collaborative effort by the industry, trade repositories and regulators worldwide. Regulators must come to agreement on the specific data set required for systemic risk identification and adopt consistent reporting standards across jurisdictions. DTCC strongly supports efforts to create a common data vocabulary, such as those spearheaded by the Committee on Payments and Market Infrastructures (CPMI) and IOSCO harmonisation working group.

DTCC encourages policy-makers and regulators around the world to take a leadership role in the governance process and to address global data standards. Collaboration is vital, and an increased sense of urgency is needed to address current challenges.

> "In order to move towards standardisation, a common set of mandatory data fields and data-field definitions should be developed at a global level"
>
> *— Colin Pou, HKMA*

Colin Pou, Hong Kong Monetary Authority: When reporting formats and data fields are standardised across repositories, it can greatly improve the efficiency and effectiveness of data aggregation and information sharing among regulators in different jurisdictions. In order to move towards standardisation, a common set of mandatory data fields and data-field definitions should be developed at a global level. Regulators across different jurisdictions and international standard-setting bodies should cooperate to develop a common set of mandatory data fields and data-field definitions, and publish them as an international standard. Such an international regulatory reporting standard can be reviewed and modified from time to time, with agreement among regulators across jurisdictions and international bodies. This can help lessen the burden on TRs and reporting entities of meeting different data-field and format requirements when reporting to different jurisdictions.

Bruce Tupper, ICE Trade Vault: There are several requirements contained in the global reporting rules that govern repository system functionality and the underlying reporting flows adhered to by market participants. During the commencement of reporting, the focus was on launching the new market infrastructure rather than on the file formats repositories used to send the data to regulators. This led to repositories submitting disparate file formats and regulators experiencing difficulties aggregating trade data. Subsequently, regulators established data harmonisation efforts among repositories (eg, CFTC data harmonisation and the European Securities and Markets Authority (ESMA) level one and level two validations).

The answer is for regulators to issue technical guidance containing specific file formats to be generated by repositories. This guidance process should be collaborative in nature, and repositories should be allowed to maintain their current front-end formats or connectivity to customers. This approach will minimise the impact and costs for customers to implement data harmonisation. ESMA, in its most recent EMIR Review Report (No. 4), also highlighted the need for more convergence with regards to reports and data formats.

***IQ:* Do you think data standards – ie, for transactions, products and legal entities – are adopted widely enough? What can be done to improve this?**

Jonathan Thursby, CME Repository Services: Legal entity identifiers (LEIs) should be standardised and their use should be mandatory. It's time we settled on a single system for LEIs in derivatives reporting. Data quality will improve and the cost to maintain mapping tables, ID sources and related operational issues will decline.

Secondly, transaction IDs should be subject to a common construction standard across all jurisdictions for creation and generation to ensure complete uniqueness. For any OTC swap trade that's intended to be cleared, the obvious

> "Legal entity identifiers (LEIs) should be standardised and their use should be mandatory. It's time we settled on a single system for LEIs in derivatives reporting"
>
> *— Jonathan Thursby, CME Repository Services*

choice should be the clearing house. For the pre-cleared bilateral (alpha) trade and non-cleared trades, regulators must provide guidance on a hierarchy for who creates the transaction ID when there isn't agreement between parties. In our view, dual-sided reporting has not resulted in higher data quality, as we have seen in Europe under EMIR. What we should be striving for is hierarchical single-sided reporting with a verification mechanism for non-cleared trades to ensure accuracy.

Product IDs have proven to be most challenging for the industry globally. The absence stalls any attempt to meet a core purpose of regulatory reporting – to view exposure in a market horizontally across all participants and regions. That will only happen when we have a single field representation for a given market. Part of the challenge has been trying solving for everything on day one. Let's start with more standardised products like credit and commodities. We also need to see critical mass through the combined effort of the leading voices in this space (ie, ISDA, Bloomberg, Reuters and the clearing houses).

Marisol Collazo, DTCC Data Repository US: Significant work remains to ensure standards are globally adopted. For example, the debate continues over whether transaction identifiers should contain any intelligence within the ID. There is currently a lack of consistency across jurisdictions. For example, the CFTC requires the reporting of the swap dealer registration ID as a prefix to the transaction ID, whereas ESMA does not permit it. This lack of agreement has resulted in firms having to report two separate identifiers for the same trade. As it relates to product identifiers, there is a lack of agreement regarding the granularity and specificity of the product identifier and how it is intended to be used for reporting or public dissemination.

Perhaps the most successful standard to emerge has been the LEI for financial institutions, but more work remains to be done. Many jurisdictions accept LEIs, although not all have mandated their use, and some permit the masking of financial institutions due to legal concerns regarding privacy laws. In addition, the LEI standard needs to be extended to support branch location and parent hierarchy. And last but not least, there is currently no standard for natural persons as a party to the transaction, which must also be addressed on a global scale.

Colin Pou, Hong Kong Monetary Authority: The HKTR promotes the use of international data standards when reporting to the HKTR. For instance, the HKTR requires reporting entities to provide the unique swap identifier (USI) reportable under mandatory reporting requirements in the US pursuant to the Dodd-Frank Act, and the unique trade ID (UTI) reportable under mandatory reporting requirements in the EU when a transaction bears these identifier(s). The HKTR requires reporting entities to provide an LEI when the counterparty of the transaction possesses one, and also requires reporting entities to provide the ISDA product taxonomy if possible to identify the product type of the transaction. It would greatly enhance data quality in TRs if the international data standards on transaction identifiers, product identifiers and counterparty identifiers could be widely adopted by different jurisdictions and TRs. Regulators in different jurisdictions should consider standardising these identifiers and including them as mandatory reporting requirements.

Bruce Tupper, ICE Trade Vault: The adoption of data standards varies by reporting jurisdiction. Transaction identifiers (USIs/UTIs) are broadly adopted under US reporting, as CFTC rules designate the reporting party to generate trade identifiers. With dual-sided reporting, counterparties tend to struggle with assigning USI/UTI creation responsibilities and use temporary identifiers in order to report their side of the transaction in a timely manner. This practice will be problematic with the upcoming EMIR level two validations. LEIs are slowly being adopted, but many market participants still have not registered for an identifier. Exceptions in certain jurisdictions, such as strict counterparty confidentiality terms, limit the adoption of LEIs. The current LEI registration requirements should be expanded to include 'parent entity' and 'financial status' to improve the data quality of transactions submitted to repositories.

There is also not a globally endorsed product identifier taxonomy that sufficiently meets the needs of all the asset classes. Reporting parties should be afforded discretion to choose the most appropriate product taxonomy to discharge their reporting obligations. It is important for the industry to adopt standard unique product identifiers (UPIs), but more important are useful taxonomies that properly facilitate the reporting workflows.

> "Without a common vocabulary, trade repositories are unable to share and aggregate data on a global scale"
>
> *— Marisol Collazo, DTCC Data Repository US*

***IQ:* How do you think the landscape for trade repositories will look in five years? Do you think there will be a consolidation of repositories or the emergence of one 'super' repository, for example?**

Jonathan Thursby, CME Repository Services: I can't make a prediction, but I would say that we don't want to see one super repository. It's unhealthy for the industry to concentrate risk in one operator of a critical piece of market infrastructure, and competition has proven to be healthy in reducing costs and improving functionality for all market participants and regulators.

Marisol Collazo, DTCC Data Repository US: DTCC has previously highlighted that achieving the G-20 transparency goals requires an optimal trade reporting framework with harmonised reporting requirements across jurisdictions and one repository to collect data as a public good. However, the current trade reporting reality is quite different, and reporting is now fragmented across jurisdictions and multiple repositories.

As it is impractical to wind back the clock, obstacles currently frustrating regulatory efforts to achieve the goals set forth by policy-makers following the 2008 crisis must be addressed. Policy-makers must act with increased urgency to enact global data standards and develop governance frameworks that enable cross-border access to timely, accurate data.

Colin Pou, Hong Kong Monetary Authority: Trade repositories in different jurisdictions would probably have built stronger ties, prompted by a regulatory push and market demand for the sharing and aggregation of data, and enabled by better harmonised global reporting standards. Nevertheless, given that the reporting regulations around the globe are jurisdiction-based, the cross-jurisdictional merging of TRs to form a super repository is unlikely to materialise. For TRs within jurisdictions, there may perhaps be room for consolidation to share product expertise and improve economies of scale. Value-added services may also be provided by the TRs for addressing the needs of users.

Bruce Tupper, ICE Trade Vault: Repositories are new market infrastructures that have significant upfront and ongoing costs to meet the operational requirements prescribed by regulators. We may see some consolidation, as it is part of the natural business cycle, and some repository providers will likely seek mergers or partnerships to better manage their operational costs so they can serve multiple jurisdictions and asset classes. However, a competitive landscape versus a single-provider approach best facilitates innovation and choice for market participants. And regulators intended to create a competitive repository landscape, as evidenced by their approval of multiple providers in each jurisdiction.

ISDA MISSION STATEMENT

ISDA fosters safe and efficient derivatives markets to facilitate effective risk management for all users of derivative products. ISDA achieves its mission by representing all market participants globally, promoting high standards of commercial conduct and leading industry action on derivatives issues. This includes being:

The source for robust and trusted documentation

Providing standardised documentation globally to ensure legal certainty and maximum risk reduction through netting and collateralisation

An advocate for effective risk management and clearing

Enhancing counterparty and market risk practices and advancing the effective use of central clearing facilities and trade repositories

The architect of a secure and efficient infrastructure

Promoting infrastructure that supports an orderly and reliable market-place, as well as transparency to regulators

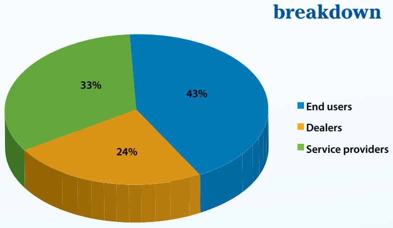
The voice for the global derivatives market-place

Representing the derivatives industry through public policy, ISDA governance, ISDA services, education and communication

MEMBERSHIP

ISDA has over 850 member institutions from 68 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. Members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers.

Membership breakdown



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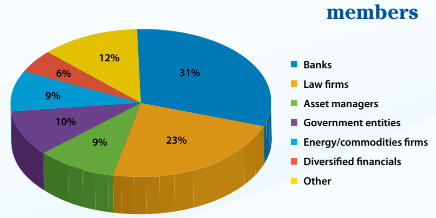

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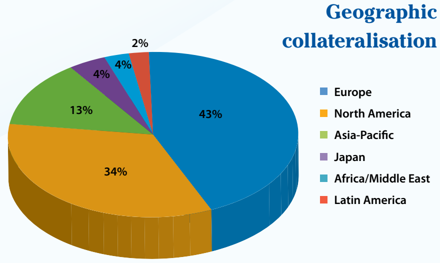

Additional information regarding ISDA's member types and benefits, as well as a complete ISDA membership list, is available on the Association's website: http://www2.isda.org/membership/

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ISDA CONFERENCES

Education has been part of ISDA's mission since the Association's inception. With now over 150 conferences, seminars, training courses and symposia held each year, ISDA's highly qualified instructors continue to educate members and non-members globally on topics including legal and documentation, clearing, collateral, data and reporting, risk management, regulation and other related issues. Conferences in 2015 have focused on margin rules for non-cleared derivatives, the ISDA Resolution Stay Protocol, regulatory developments for the buy side, and the commodity derivatives markets.

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

In addition to ISDSA's regular courses, the Association also offers regional updates during the third and fourth quarters in New York, London, Sydney, Hong Kong or Singapore (these rotate every year) and Tokyo. These one-day conferences are intended to inform both members and non-members, regulators and the press of ISDA's regional work.

The ISDA Annual General Meeting (AGM) is ISDA's premier, members-only event. Every year, the ISDA AGM takes place in different financial centers around the world, rotating among the major economically developed countries. ISDA's 30th AGM took place in Montreal and featured a discussion on cross-border harmonisation by leading regulators and legislators. ISDA's 31st AGM will be held on April 12-14, 2016, in Tokyo.

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

@ISDAConferences

UPCOMING ISDA 2015 CONFERENCES AND EVENTS

ISDA 31st Annual General Meeting
April 12 – 14, 2016
Tokyo

ISDA Regional Conferences 2015
October 22, 2015:
Annual Australia Conference, Sydney

October 26, 2015:
Annual Asia Pacific Conference, Hong Kong

October 29, 2015:
Annual Japan Conference, Tokyo

ISDA WGMR Workshop on the ISDA SIMM
New York – October 7
London – November 16

UPCOMING CONFERENCE TOPICS

- EMIR Compliance Update
- Legal Aspects of Clearing
- Equity Derivatives Confirmations Workshop Including 2011-based Index Volatility Swaps
- Cross-border Debate—Issues to Watch in 2015 and Beyond
- Fundamentals of Derivative Operations and Trade Processing
- ISDA Master Agreement and Credit Support Annex: Negotiation Strategies
- Security-based Swap Reporting
- Tax Issues: Special Topics Impacting the ISDA Master Agreement
- WGMR, Bank Resolution and Resolution Stay Protocol
- Client Clearing Legal Opinions
- Clearing: Basic and Advanced Topics
- Fundamental Review of the Trading Book
- Fundamentals of Derivatives
- Understanding the ISDA Master Agreement
- Understanding Collateral Arrangements & Updates on Collateral Issues
- The Future of Single-name CDS
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- Regulating Benchmarks
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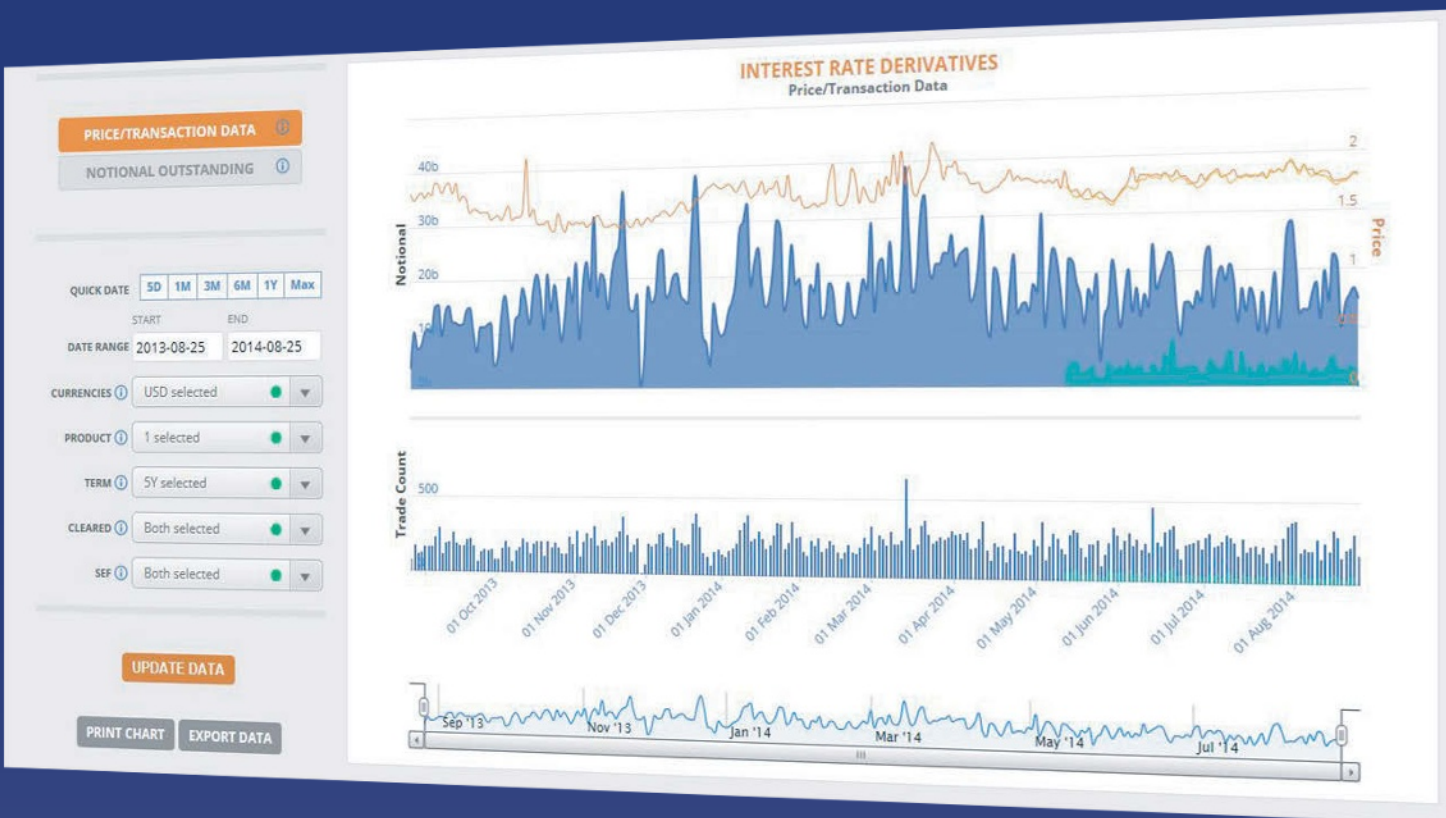

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Daily IRD prices and trading volumes, measured by notionals and trade count.

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Daily CDS prices and trading volumes, measured by notionals and trade count.

Market Risk Activity
CDS trading volume for single name and indices that results in a change in market risk position.

Notional Outstanding
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