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REPO 2023

SFT Repo Annual 2023

Welcome to the 2023 edition of Securities Finance Times' Repo Annual.

Uncertainty is prevalent as global markets debate a near term recession, while a recent, albeit contained, banking crisis is top of mind for investors. Despite this volatile and unpredictable market environment, opportunity remains in the repo market.

Repo trading activity is on the rise, with volumes in Europe having increased exponentially over the past few years. Figures from the International Capital Market Association (ICMA) indicated in March that the total value of repos and reverse repos outstanding on the books of 61 institutions stood at €10.3 trillion.

Broadridge's Paul Chiapetta and Bonita Blaney explore what they define as the most important innovation in the history of global repo trading. Held back initially by traditional infrastructure, intraday repo could become the go-to source of short-term funding for banks and broker-dealers with distributed ledger technology (DLT) systems changing the dynamic to allow the market to transform.

'Electronification' is also driving innovation in this sector, according to Tradeweb's James Kelly, who indicates that the process will bring greater transparency and will deliver time and cost efficiencies to the repo space — marking a new era for repo where automation is set to unlock additional value for clients.

Financial institutions are finding themselves under pressure to manage their collateral as efficiently as possible. With collateral pressures increasing, SIX's Nerin Demir notes that firms are dealing with challenging macro headwinds and rising operational costs. While State Street Global Market's Cassandra Jones assesses the peer-to-peer construct and its potential to empower the buy side, MarketAxess' Nick Moss evaluates the importance of data quality.

In closing, thank you to all of our sponsors who have contributed their insights on this evolving market.

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Published by Black Knight Media Ltd

Inside this handbook

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BoE amends schedule for 7-day US dollar repo operations

The Bank of England (BoE) made changes to seven-day US dollar repo operations, which commenced from 1 May 2023.

Seven-day US dollar liquidity-provision operations will revert from daily to once per week, with operations expected to run on Wednesdays.

This change comes in light of improvements in US dollar funding conditions and the low demand at recent seven-day maturity US dollar liquidity-providing operations. The BoE, the Bank of Japan, the European Central Bank and the Swiss National Bank, in consultation with the Federal Reserve, enacted operational changes from 1 May 2023.

Alongside this update, the UK central bank will also revert from daily to weekly seven-day maturity operations which provide liquidity via the standing US dollar liquidity swap line arrangements.

The swap lines among central banks are available standing facilities and serve as an important liquidity backstop to ease strains in global funding markets, thereby helping to mitigate the effects of such strains on the supply of credit to households and businesses, domestically and abroad.

The update follows an announcement from a number of central banks in March that have started to unwind temporary changes to their liquidity-providing operations, through the US dollar liquidity swap line and repo operations, introduced in response to the Credit Suisse Group crisis.

The BoE says it continues to stand ready with other central banks to re-adjust the provision of US dollar liquidity as warranted by market conditions.

FCA provides LDI guidance to ensure ‘lessons are learned’ from gilts market crisis

The Financial Conduct Authority (FCA) has set out guidance on risk management and operational arrangements for liability driven investment (LDI) managers.

Following the gilts market crisis in September 2022, the FCA has been working with regulatory partners and engaging directly with firms involved in the management of LDI portfolios to develop and maintain increased resilience to deal with possible future volatility.

The major repricing of UK financial assets that took place last year, particularly the rise in bond yields, exposed vulnerabilities associated with LDI funds. This triggered a sharp increase in collateral calls, pushing some LDI funds into forced sales of their gilt holdings that threatened further market dysfunction and a threat to UK financial stability.

Within its risk management and stress testing recommendations, the FCA says that liquidity management measures, such as fund liquidity buffers and changes to clients’ liquidity waterfalls, are a necessary but only partial solution to address vulnerabilities.

Further, the Authority believes that strengthening the resilience of LDI strategies requires realistic contingency planning and the application of appropriately designed stress tests.

"Liquidity buffers should be set for each sub-fund at a level that allows them to: withstand severe but plausible stresses in the gilt market; meet margin and collateral calls without adding to market stress; and withstand the foreseeable demands that may be made," the FCA informs.

Moreover, the FCA asks managers to clearly understand the risk factors relevant to their portfolios. Effective risk management considerations include asset and exposure concentrations — such as an exposure to a particular duration or asset type or counterparty. The Authority asks firms to consider sensitivity to developments in the macroeconomic environment, including changes in interest rates and inflation expectations, as well as the speed and extent of any such alterations.

In addition, the composition of clients' liquidity waterfalls and how the elements within these (asset classes and instruments) might perform from a valuation and a liquidity perspective in the stress scenarios that may arise, must also be considered.

The FCA's recommendations follow comments from the Bank of England (BoE) in December 2022 that banks must apply a prudent approach when providing funding to LDIs. The BoE recently published a working paper dissecting the gilts market crisis.

It discussed how a sharp rise in gilt yields following the UK mini-budget of 23 September 2022, led to some pension fund and asset managers, with significant exposure to highly-leveraged LDI strategies, experiencing a deterioration of their repo and derivatives positions and significant rises in collateral and margin requirements.

Some were forced to liquidate gilt positions to access cash to meet these margin requirements, triggering a further rise in gilt yields and liquidity tightening in gilt markets, prompting the BoE to intervene to restore orderly market functioning.

Sarah Pritchard, executive director of markets at the FCA, says: "We have been clear that asset managers must take the necessary steps so that their LDI portfolios are resilient to future market volatility.

"Since September last year, we have been closely monitoring asset managers using LDI strategies as they make improvements and the sector is now much more resilient to potential risks, but there is more to be done."

She continues to explain that the FCA guidance sets out what the Authority expects in terms of risk management, stress testing and client communication, so that the necessary lessons are learned from last September's extreme events.

Pritchard concludes: "Many of these lessons will be relevant to firms beyond the LDI sector."

The FCA will continue to work with regulatory partners in engagement with this sector on implementing or complying with any further guidance or requirements issued by other authorities, including the BoE's Financial Policy Committee recommendations of March 2023 and The Pension Regulator's guidance issued in April 2023.

Tokenisation could revolutionise the industry, suggests new ISLA paper

The International Securities Lending Association (ISLA) has released a new paper which takes a 'deep dive' into tokenisation from the perspective of securities financing markets.

Entitled 'Commercial Opportunities & Practical Considerations for Tokenisation for the Securities Financing Market', the Digital Assets in Technology paper is part of ISLA's Asset by Asset series.

The series is produced in conjunction with members of the Digital Asset Working Groups (DAWG), which was established by member request in May 2022, to discuss all topics associated with expansion into new digital asset classes.

In the new paper ISLA discusses the use case of using tokenisation as a way of 'securitising' certain fund structures. Further, it explores how tokenising assets can open up multiple opportunities for the industry, especially in respect of the collateralised leg of the trade.

ISLA highlights a number of key considerations including increased mobility of trapped assets and accessibility to investors for illiquid assets, the ability to optimise asset utility across fragmented asset pools, and reduced operational processing timeframes.

In addition, the paper recognises the reduction of delivery risk through a combination of tokens with smart contracts, improved supply chain transparency including ESG markers, and the transfer of contractual rights of a transaction separately to the assets themselves.

The use of tokenisation across financial services has been steadily growing, with the Value Exchange reporting over US$1.3 billion in live digital debt issuance as at March 2023. This value is expected to grow exponentially in the years to come, according to the paper.

ISLA stresses that “realising the full potential of tokenisation will require firms to look very closely at the legal structuring of any venture to ensure viability and that the solution will achieve the intended business outcome”.

Tokenisation provides a chance to revolutionise the securities financing industry alongside the wider capital market ecosystem, according to ISLA’s paper, providing it is implemented with

Mosaic extends support to repo market

Capital markets data analytics firm Mosaic Smart Data has added support for repo instruments to its artificial intelligence-powered platform.

It comes as a response to a growing demand from banks for the ability to optimise balance sheets, the firm says.

Banks look to accomplish this through having a real-time and historical view of repo transaction data across all client accounts and convert this data into actionable intelligence at the click of a button.

The platform is designed to aggregate the entirety of a bank’s repo data, normalise it and apply machine learning and AI to extract insight from that data.

A shift to automated and ultra-low latency electronic trading, in addition to an increase in the number of participants and the amount of data generated from rising volumes, has created urgency for banks to view all repo transaction data from across the organisation and external sources, the firm says.

Commenting on the new addition, Matthew Hodgson, CEO and founder of Mosaic Smart Data, says: “The bond markets have been under the global spotlight in light of recent events in the banking sector, highlighting once again the importance of being able to react incredibly quickly, equipped with the right insights, when the chips are down.

“We have already helped many global banks optimise their FICC trading operations with real-time, cutting edge analytics tools, and now we have extended that support to the repo market at a time when digitisation and trading volume growth continue at pace.”


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ION Markets’ LatentZero connects to Trumid

ION Markets’ order management system, LatentZero, has successfully been connected to fixed income electronic trading platform Trumid.

Through the new connection, ION Markets’ clients will have access to Trumid’s integrated market data intelligence tools, which provide greater transparency and an aggregated view of the market.

Traders will have access to anonymous and attributed trading workflows through Trumid, in full compliance with investment directives, risk and compliance checks.

By integrating ION Markets’ service Trumid can offer best execution to its clients, with wider interaction with buy- and sell-side market participants, greater liquidity access and increased trading opportunities.

Commenting on the partnership, Lauren Burd, head of product sales at Trumid, says: “The Trumid platform offers a unique pre-trade experience and a large pocket of diverse liquidity. Our integration with LatentZero OMS creates efficiency and helps to minimise operational risk for traders. We look forward to continued collaboration with ION, especially as we expand into list-based trading.”

Steven Strange, head of product for asset management at ION Markets, adds: “We’re committed to meeting the evolving needs of our clients, offering technology innovation and workflow automation to help them transform their businesses. We’re equally passionate that compliance checks are built into every stage of the lifecycle, guaranteeing an audit trail for less complicated reporting.

“The connection to Trumid through ION LatentZero OMS will provide access to leading market intelligence tools and improve workflow efficiency across the full trade lifecycle.”

the correct attention to due diligence, investor protection, control and risk management.

David Shone, director of digital affairs at ISLA, says: “The tokenisation paper highlights key areas of conversation around tokenisation using distributed ledger technology that have an impact on securities financing.

“Education, awareness and a forum to discuss risks and opportunities of new technology is core to what ISLA offers its members through our digital workstreams, and this paper will hopefully encourage further exploration within our Digital Asset Working Groups.”

Margin Reform appoints Adams to head securities finance practice

Margin Reform, a practitioner-led management and IT consultancy firm, has appointed Jonathan Adams to head the firm’s securities finance practice.

The appointment comes as part of Margin Reform’s expansion, which will see Adams take on the practice involving repo and securities borrowing and lending, to support its portfolio of sell- and buy-side clients.

Adams brings more than 25 years of securities finance experience to the London-based role. He will report to Shaun Murray, CEO of Margin Reform.

He joins Margin Reform after

his recent departure from Delta Capita, where he was head of securities finance and collateral management at the firm's London office between 2016 and 2023.

Previously, Adams was a consultant for collateral management at ING Nederland in Amsterdam between 2013 and 2016. Earlier in his career, Adams worked at a number of financial institutions including J.P. Morgan, Euroclear, State Street Bank and BNY Mellon.

Kaizen Reporting buys majority stake in London Reporting House

Kaizen Reporting has purchased a majority stake in London Reporting House.

London Reporting House was formed in 2021 by chief executive Danny Corrigan, head of product Richard Comotto and a team of fellow repo specialists that aim to bring a new level of real-time transparency to the repo markets.

Its platform aggregates, enriches and evaluates Securities Financing Transactions Regulation (SFTR) trading data on an anonymised basis to provide deeper insight into repo market trading conditions in the European Union and UK.

With the acquisition by Kaizen, London Reporting House's tools and analytics will be available through its web-based regulatory information and compliance platform known as Kaizen Hub.

Speaking about the transaction, Kaizen Reporting CEO Dario Crispini says: "Our partnership with London Reporting House shows our commitment to expanding the services we can offer our clients. It also highlights our belief in the expertise and creativity that Danny and Richard bring to London Reporting House and the products they are building.

"The products they are creating provide invaluable information for trading and risk teams at a time when financial institutions are looking for enhanced transparency and data across all markets."

Danny Corrigan, CEO and co-founder of London Reporting House, comments: "By joining forces [with Kaizen Reporting], we are able to enhance our offering and build out our platform which leverages Kaizen's IT infrastructure and legal framework for onboarding.

"Bringing their expertise and technology together with ours, we are able to offer the repo market a unique service that creates a transparent and deep view of the UK and EU repo markets."

To explain the rationale for this transaction from a Kaizen perspective, Crispini tells Securities Finance Times that Kaizen Reporting has a sizeable book of large bank and buy-side clients active in its SFTR reporting service and it has been working with these clients to find ways of delivering additional value from their reporting data.

"Kaizen Reporting is heavily focused on data quality and we offer an SFTR data quality service to assess the quality of SFTR data that firms are reporting to trade repositories," says Crispini. Subsequently, London Reporting House has applied this SFTR data to develop a range of metrics and analytics for the EU and UK repo markets.

London Reporting House CEO and co-founder Danny Corrigan explains that this repo market solution could not have happened without SFTR, but also could not have been developed without Kaizen and the surety it provides in verifying the accuracy of SFTR reporting from clients using its reporting service.

"Initially we will offer the solution for four core markets, namely repo trades against UK gilts, German bunds, French OATs and the Italian BTP," says Corrigan. "We will begin with these relatively widely-traded government securities to demonstrate that the service works but, over time, we expect to extend this to repo transactions in other bond markets."

The aim is to begin with a proof of concept for these four markets and across five products, specifically GC repo spreads and curves, specials, transaction volumes along with collateral haircuts and pricing.

London Reporting House is working with approximately 20 firms in developing this repo market data and analytics solution, with five early adopter firms - including large dealer firms and asset managers - active in testing the initial service offering.

"By the summer of 2023, we are confident of being live for several firms and for five products across four markets," says Corrigan.

"There is no lift or transition process for the users in technology terms. They can pull this data directly from the Kaizen Hub using a user interface (client dashboard) or via API," he adds.

Kaizen Reporting's Crispini indicates that the service that London Reporting House is putting together will be the first time this level of market insight and transparency will be available for the EU and UK repo markets.

The full terms of the deal have not been disclosed, but the London Reporting House, led by Corrigan as chief executive, will continue to operate independently with majority ownership from Kaizen. However, London Reporting House will benefit from some shared resources, including use of Kaizen's human resources division and expertise within the finance department, legal and relationship management.

ICMA releases 2023 GMRA legal opinion updates

The International Capital Market Association (ICMA) has released the 2023 legal opinion updates for the Global Master Repurchase Agreement (GMRA), discussing its enforceability and netting provisions.

In order to recognise credit risk reduction by collateral and close-out netting in regulatory capital requirement and large exposure calculations, regulators demand repo transactions to be documented under robust written legal conditions, such as the GMRA, with regularly updated legal opinions.

Legal opinions on the GMRA are updated annually, and cover more than 60 jurisdictions.

The updates provide a business-critical service for GMRA-related activities, offering ICMA members a comprehensive list of legal opinions and ensuring that they are complying with regulatory conditions.

RISCfp introduces managed treasury pool notes

Financial solutions provider RISCfp has introduced managed treasury pool (MTP) notes to enable insurers to diversify or reduce their short-term investment risk as they pledge collateral.

The RISCMTP-Notes, which are also available to institutional investors and corporate treasurers, are Moody's-rated, listed, debt securities. They combine the liquidity of bank deposits with the managed returns of government money market funds (GMMFs).

The RISCMTP-Notes have been designed to address the challenges of the existing alternatives, such as credit concerns, liquidity constraints and collateral eligibility.

The RISCMTP-Notes represent a

proportional interest in the assets backing the notes. For example, US treasury bills and notes, and temporary assets such as GMMFs. They are also annually redeemable at par (face value).

They may be redeemed at any other time for same-day value by transferring the investor's share of each asset in the portfolio to a redemption account where, at the investor's option, they may either be delivered to the investor or sold at market prices.

BNY Mellon, Merganser Capital Management and Waystone are supporting RISCfp to deliver the RISCMTP-Notes to financial markets. BNY Mellon acts as the custodian and Merganser as investment manager. Waystone provides operational support.

Derrell Hendrix, CEO of RISCfp, says: "RISCMTP-Notes are designed to serve as versatile investment and collateral instruments that are more liquid, capital-efficient and secure than short-term credit securities and bank deposits, prime money market funds and exchange-traded funds. In short, investors' money works harder and more reliably with RISCMTP-Notes."

RISC Financing Platform Services is a financing solutions advisory and platform management company that was established to help institutions to meet their demands for financing, current and contingent liquidity, collateral and capital.

It uses standardised secured lending structures, including repo, securities lending agreements and secured loans, that are eligible for protection under bankruptcy procedures in major OECD countries.

RISCfp's board of directors includes CEO Derrell Hendrix, CFO Richard Black, former Citibank executive Thomas Huertas as chair, and John I Williams jr as additional director.

Its management board also includes Roy Zimmerhansl, securities finance industry veteran and practice lead at Pierpoint Financial Consulting, along with tax counsel Jeffrey Tretin, Karson chief risk officer Jose-Maria Saez-Benito and Karson Management Ltd executive partner Martin Kauer.

UBS executes first cross-border repo trade on Broadridge's DLR platform

Switzerland-based investment bank UBS, alongside a global Asian bank, has executed the first cross-border intraday repo transaction on Broadridge's blockchain-enabled Distributed Ledger Repo (DLR) platform.

The intraday trade marks the launch of the next phase in the rollout of Broadridge's DLR platform, which was first released in June 2021.

DLR is designed to provide a utility where market participants can agree, execute and settle repo transactions, providing flexible settlement cycles based on a counterparts' needs.

Broadridge's platform aims to increase settlement velocity and collateral mobility, therefore making intraday settlement possible. The platform also reduces the operating cost and risk of all repo activity, including overnight and term repos, says Broadridge.

Continuing to build on the initial success of the platform and leveraging the growing expansion of the network across the global repo community, Broadridge says that the announcement is a major step forward to providing a more efficient means of intraday liquidity management.

The firm indicates that the global expansion of the platform across sell- and buy-side firms enables a network effect of increased benefits and additional transaction types.

Broadridge aims to bring the benefits of distributed ledger capabilities to transform the global repo market. The firm reports that it has captured US$1 trillion in monthly volume.

UBS group treasurer Beatriz Martin comments: "Intraday repo is a valuable tool to manage our liquidity usage and provides flexibility in our funding capabilities with reduced operational risk. This accomplishment builds on the foundation we have established as an early adopter of the distributed ledger platform.”

Horacio Barakat, head of digital innovation at Broadridge, adds: “This is the next step in executing on our vision of transforming global repo market infrastructure. We are empowering leading financial institutions like UBS with the ability to dramatically lower risk and operating costs and see enhanced liquidity.”

Banking resilience improves, says BCBS

The Basel Committee on Banking Supervision (BCBS) has highlighted major improvements in bank liquidity risk profiles and capital reserves since the 2008 financial crisis as a key step to reinforcing the resilience of the global banking system.

Since 2011, banks’ leverage ratio has improved from 3.5 to 6.5 per cent and their risk-based common equity tier 1 ratio (CET1) has risen from 7 to 13 per cent, according to BCBS.

Additionally, banks have strengthened their liquidity risk profiles, with their average global Liquidity Coverage Ratio currently standing at 140 per cent and their Net Stable Funding Ratio (NSFR) at 125 per cent.

At a meeting held virtually on 13 March and an in-person meeting in Hong Kong on 22 and 23 March, the BCBS outlined the steps that it is taking to protect the resilience of the global banking system, reinforced by

Clearstream releases Collateral Mapper to enhance utilisation of equity collateral

Clearstream has released a solution to optimise management of equity collateral, providing predictive analytics and data relating to collateral portfolios and equity capacity.

The service, named Collateral Mapper, delivers an automated and integrated view of the collateral inventory and offers pre-emptive insights on the potential of an equity portfolio. This uses automated workflow and end-of-day data, thereby minimising manual requirements.

In doing so, it highlights any spare capacity in rebalancing an inventory towards equity, enabling higher-quality collateral assets to be deployed for other uses.

Priya Sharma, head of data and connectivity at Clearstream, says: “Due to the current changing interest rate climate, market participants are placing a renewed focus on collateral management. We at Clearstream combine the power of high-quality data and pre-emptive analytics to provide clients with innovative and reliable insights.

“With the Collateral Mapper, we enable them to maximise their collateral pool across different asset classes. Today, more than 10 per cent of triparty repo collateralisation is taking place in equities, bringing potential to optimise eligible inventory.”

Marton Szigeti, head of collateral, lending and liquidity solutions at Clearstream, adds: “Providing our clients with reliable and scalable state-of-the-art solutions that reduce the frictional costs of trading through transparency and automation is core to our collateral management strategy.”

Clearstream indicates that this Collateral Mapper tool can be accessed via Clearstream’s Xact platform and is now available to users for a 3-month trial on a free of cost basis.

robust regulatory standards and effective bank governance and risk management practices.

Reflecting on recent banking instabilities in Switzerland with the Credit Suisse takeover and in the US and UK with the collapse of Silicon Valley Bank, BCBS reminded stakeholders that risks of high inflation, lower growth and geopolitical tensions are presenting significant risk management challenges to banks.

It notes that years of low interest rates allowed debt to build across household and corporate sectors and, with central bank rate hikes, borrowers are facing significant increases in their debt service obligations. It notes that a broad-based repricing of asset markets could present additional risks to the banking sector.

Given these risks, the Basel Committee reaffirmed its commitment to implementing all elements of the Basel III framework as quickly as possible. As part of its core work programme, the Committee is conducting a review of its Core Principles for Effective Banking Supervision, integrating structural changes and supervisory experience that it has acquired since the last update in 2012.

It is also evaluating South Africa's experience in implementing the Net Stable Funding Ratio and large exposures framework, with a report to follow in April.

Alongside this, the Committee has confirmed a workplan to evaluate and mitigate risks from cryptoassets to the global banking system, including risks associated with permissionless blockchain and eligibility criteria for Group 1 stablecoin. This will also include monitoring banks' exposures to cryptoassets, including their activities as issuers of stablecoins and tokenised deposits, and their role as cryptoasset custodians.

In the area of climate risk, the BCBS is developing a Pillar 3 disclosure framework to require additional disclosures from banks relating to their prudential risks. This will be interoperable with, and will complement, disclosure initiatives being developed by the International Sustainability Standards Board and other global authorities. BCBS aims to publish a consultation paper on its progress in this area by the end of 2023.

European Repo Survey reveals new record high for outstanding repo value

The total value outstanding of repos and reverse repos on the books of the 61 institutions that took part in the recent European Repo and Collateral Council (ERCC) survey has grown to a record high of €10,374.2 billion, a 12.8 per cent rise year-on-year and 7.2 per cent rise from the June 2022 survey.

Some of this increase in value outstanding reported in the latest European Repo Market survey, which measured the amount of repo business outstanding on 8 December 2022, reflects the addition of new participants to the survey — up from 56 participants who contributed data to the 8 June 2022 ERCC survey.

The latest survey reported a sharp drop in the share of triparty repo from 9.0 per cent in June 2022 to 6.5 per cent, which occurred despite an increase in the number of participants reporting triparty business and the revival of general collateral (GC) repo.

Data provided by automatic trading systems (ATS) in Europe highlighted a further acceleration in the growth of repo trading value. The outstanding value of repos executed on these platforms increased 15.7 per cent to €1,651.4 billion on 8 December 2022, compared with the previous survey in June 2022.

However, growth in the outstanding value of ATS trading was boosted by the addition of SIX SIS to the set of ATS providing separate returns to the survey, meaning there was a significant deceleration in the growth of ATS balances, the survey reports.

The European Repo Market survey conducted by the International Capital Market Association (ICMA) reveals that the key developments impacting the survey were the market turmoil in September and dealer preparations for the year-end, resulting in the temporary winding-down of their balance sheets.

The market turmoil, arising from uncertainty over the pace and size of central bank interest rate increases and the shock of the UK mini-budget, occurred against the background of rising activity in the repo market, in addition to increased cash-driven trading and growing securities-driven trading, reports ICMA ERCC.

These events helped to boost demand for German and, to a lesser extent, other core eurozone government securities. However, the sell-off of UK gilts by Liability Driven Investment (LDI) pension funds “may have sapped subsequent activity in the gilt repo”.

ICMA notes that as the year-end approaches, dealers typically “window dress” their balance sheets by shrinking them to minimise costs and consequences linked to end-year balance sheet size. In 2022, these concerns manifested themselves as early as summer. Forward prices implied severe market tightness by the year-end, the survey reports.

Notwithstanding, the report indicates that the 2022 year-end passed smoothly. This was largely the result of early preparations by dealers and their customers and supportive action by the market authorities — for example, the issuance of additional German government securities and the loan of these securities to ease collateral shortages.

Clear Street attracts substantial Series B funding

Clear Street has received a US$270 million investment from growth equity specialist Prysm Capital, taking the value of the New York-based bank to US$2 billion.

This is the second tranche of investment that Prysm has made in Clear Street’s Series B funding, following on from a US$165 million commitment that it made in May 2022 alongside co-investors including IMC Investments, NextGen Venture Partners, Walleye Capital, NEAR Foundation, Belvedere, McLaren Strategic Ventures and Validus Growth Investors.

This additional funding will power Clear Street’s ambitions to extend its service coverage across new markets and asset classes, to accelerate product expansion and to support clients wishing to consolidate to a single solutions platform.

This builds on investments that the prime broker made during 2022 to extend its sales and engineering teams, with a number of high-profile appointments, including Rob Sackett as head of prime financing and Raj Karan Singh as senior managing director of securities finance. Since its launch in 2018, the company has released repo trading and capital introduction services, grown its securities lending business and enhanced its risk, operations, report and client service portals.

Clear Street co-founder and CEO Chris Pento says: “Our team has made incredible strides since our inception in 2018, and this additional funding is further testament to the value that we bring to our clients.

“Over the past year, the number of institutional clients on our platform increased by 500 percent and our daily transactional volume increased over 300 percent. We’re excited to keep this momentum with support from our continued partnership with Prysm.”

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PRE TO POST TRADE TECHNOLOGY SOLUTION

Nerin Demir
Head of repo and collateral management
SIX

Market dynamics force firms to seek out new sources of collateral

In confronting market headwinds, financial institutions are finding themselves under pressure to manage their collateral as efficiently as possible, prompting more firms to engage with providers of third-party collateral management solutions, explains Nerin Demir, head of repo and collateral management at SIX

As central banks attempt to tame inflationary risk, many are resorting to substantial interest rate rises. These rate hikes are impacting financial institutions' ability to finance trades and even post collateral. With the European Central Bank (ECB) poised to raise rates even further, it is expected that financial institutions will seek out alternative funding sources via the repo market.

Repo volumes in Europe have increased exponentially over the past few years. According to analysis by the International Capital Market Association (ICMA), the total value of repos and reverse repos outstanding on the books of the 61 institutions featured in the study stood at €10.3 trillion, a substantial jump from the previous record of €9.68 trillion, corresponding to a 12.8 per cent year-on-year growth.

It is not just major financial institutions which are leveraging the repo and securities finance markets, but so too are small and medium-sized market participants. It is here where problems can start to emerge.

This is because these institutions are often not as familiar with how securities finance operations and repo markets work, mainly because the barrier to entry has historically been very high. Such institutions are often reliant on manual processes, which can also create problems when accessing these markets.

Collateral demands intensify

Exacerbating matters, the demand for high-quality collateral has intensified for financial institutions. This follows the introduction of Phase 6 of the BCBS-IOSCO's Uncleared Margin Rules (UMR) in September 2022. Phase 6 of the UMR subjects a wider scope of bilateral counterparties trading uncleared over-the-counter (OTC) derivatives to additional margining requirements — forcing them to source and post further collateral.

The provisions apply to any financial institution with an aggregate average notional amount (AANA) above the US$8 billion threshold, something which has mostly impacted asset managers and hedge funds.

Feeling the squeeze

As collateral pressures increase, financial institutions are also finding themselves dealing with challenging macro headwinds and rising operational costs. Market volatility — most recently illustrated by the banking crisis in the US and Europe — caught a number of firms off-guard, while rate rises and inflation are also hurting performance, particularly among investors.

These difficult performance conditions have resulted in investment firms suffering substantial outflows. For example, assets under management (AUM) at mutual funds and exchange traded funds (ETFs) in the US declined by almost 17 per cent between January 2022 and the end of October 2022.

Furthermore, financial institutions — ranging from global custodian banks and brokers to asset managers — are being squeezed on fees, which is adversely affecting their revenues. At the same time, operational costs are also trending upwards, sparked by the implementation of new regulations, particularly in the EU.

Amid these tough circumstances, the ability to manage collateral effectively has never been more important.

Identifying the right products

Currently, collateral is managed across the front and back offices through systems developed by a range of technology services providers. The complexity and lack of visibility brought on by this means human intervention is high, as constant monitoring and communication is needed across different business silos to avoid errors.

> *"In today's volatile market conditions, financial institutions need to identify ways to simplify their operational processes, maximise their collateral usage and reduce the operational risk. Adoption of cutting edge collateral management solutions is one way that they can go about it"*

To improve these processes, firms are turning to high calibre providers such as SIX.

Financial institutions are looking to leverage collateral management solutions, including the SIX Collateral Cockpit and the Triparty Collateral Management (TCM) service. In the case of the Collateral Cockpit, the solution's interface is designed to join up fragmented front and back-office information systems to give repo professionals the ability to view and manage collateral in real-time, on one platform. This solution aims to enable banks to enter a new market segment without major investment and effort.

Similarly, the TCM service allows the two parties to a transaction to delegate their day-to-day operational responsibilities around collateralisation to SIX.

SIX performs tasks such as the selection and automatic execution of collateral transfers and ongoing validation that exposures are being appropriately collateralised through daily mark-to-market checks on the collateral, throughout the lifecycle of the transaction.

Other solutions include CO:RE, which is aimed at collateral and repo trading. CO:RE, which is targeted at banks, broker-dealers, insurance firms, commercial banks and asset managers, brings together trading and collateral management capabilities in a fully integrated value chain.

CO:RE is a multi-faceted electronic trading facility providing single-point access to more than 160 counterparties trading repo contracts across 14 currencies. Central and commercial bank money are available, alongside access to the Swiss National Bank's (SNB's) primary market for the issuance of money-market instruments.

Moving forward, SIX is introducing a new Linked Repo segment, complementing its Repo Market solution, which will allow participants to either upgrade or downgrade their collateral via two repo trades with cash netting.

An intelligent approach

In today's volatile market conditions, financial institutions need to identify ways to simplify their operational processes, maximise their collateral usage and reduce the operational risk. Adoption of cutting edge collateral management solutions is one way that they can go about it. ■

The case for peer-to-peer repo solutions in EMEA

Cassandra Jones, managing director and EMEA head of securities finance client management at State Street Global Markets, assesses the peer-to-peer construct and its potential to empower the buy side

A changing market environment has produced a refreshed urgency to establish the right tools for liquidity and diversification. Uncertainty is prevalent as global markets are debating a near term recession, while a recent, albeit contained, banking crisis is top of mind for investors. On one hand, volatility and credit concerns highlight the importance of having risk-efficient options for cash investment and cash borrowing. On the other hand, there is now a significant opportunity cost of cash with interest rates well into positive, restrictive territory in many locations around the globe.

There are many opportunities to obtain a decent return on invested cash. The interplay of these considerations builds the case for alternative repo solutions. Many investors are turning to the secured markets as a way to place their cash, which provides the safety of collateralisation rather than remaining unsecured. Market practitioners need to have many tools in the toolbox to deal with funding, cash investment and liquidity needs in this rapidly evolving environment. When considering bilateral, cleared and new peer-to-peer repo structures, it makes sense to have a complete set of diversified solutions which act differently in times of crisis.

Following the global financial crisis, additional regulatory considerations such as risk-weighted assets under Basel capital requirements have driven down the appetite for traditional on-balance sheet lending that banks previously offered in abundance. In lockstep with the buy-side's evolving needs, a mainstay of cleared transactions re-emerged — the Fixed Income Clearing Corporation's (FICC's) Sponsored Member Repo programme.

This programme has surged, in a flight to safety, to a peak of over US$600 billion in daily volume in March 2023. In addition to FICC's credit rating, the cleared structure mitigated capacity constraints over month, quarter and year-ends. Due to its success in meeting market needs, the FICC Sponsored Repo programme continues to be a significant repo and reverse repo counterpart to money market funds, asset managers, pension funds and hedge funds.

Both the Federal Reserve System and European Central Bank (ECB) continue to reduce their balance sheets and rising rates could revive repo market volatility. Over the years, and particularly when the Fed has proceeded with quantitative tightening, we have seen funding strains in the bilateral repo markets. Market participants can recall the pressures that have emerged in past years with quantitative tightening, with repo rates hitting an overnight high of around 10 per cent in September 2019.

With inflation running at around double-digit levels in the UK, Eurozone and US, we can expect near term central bank tightening to continue and the potential for other liquidity concerns to remain. These market dynamics set the stage for peer-to-peer repo offerings to fit a market need. Both lenders and borrowers were eager for new sources of liquidity, counterparty diversification and the capacity a peer marketplace can offer.

The concept isn't new, but the execution of the model is new and improved. Peer-to-peer repo puts the power in the hands of the buy side. Buy-side counterparts are able to trade directly with one another, while a bank like State Street, provides an indemnification to supply credit intermediation. This eliminates the traditional spread taken by dealers to offer potentially improved rates and it unlocks new sources of liquidity.

The case for peer-to-peer constructs holds across regions. Arguably, in EMEA, there is an even stronger case for a peer-to-peer marketplace to unlock liquidity across bifurcated jurisdictions. In EMEA, more countries and markets produce significant specials activity. There is also significant untapped liquidity across borders and currencies.

The European Sponsored Repo programmes are not as prevalent as in the US, so the market is currently searching for alternative ways of accessing liquidity. Market forces have driven this need. As in the US, there has been unprecedented action taken by central banks in the wake of the pandemic. The ECB's pandemic emergency purchase programme (PEPP) introduced a vast amount of liquidity into the market through bond buying, with excess reserves increasing from €1.7 trillion at the end of 2019 to €3.2 trillion by the end of October 2020, according to the ICMA European Repo Market Paper.

We witnessed collateral scarcities in the European markets as a result — for example, at year-end 2016 when collateral scarcity caused repo rates to plunge for high quality liquid assets. Weighted average prints reached around -8 per cent for French and German general collateral (GC). Although the ECB has started to wind down its balance sheet, these cases highlight the potential for peer-to-peer adoption driven by the need for collateral.

Peer-to-peer creates an additional opportunity for market participants to access balance sheets and assets that were traditionally off limits. For example, a hedge fund may be able to source specials from a large asset owner, sovereign wealth fund or insurer directly, and those asset owners feel comfortable trading with that hedge fund when there is indemnification provided by the peer-to-peer programme provider. On the cash investment side in EMEA, there is differential access to cash investment outlets for US and non-US money market funds.

US funds are able to park cash at the Federal Reserve's Reverse Repo facility (Fed RRP) at stable rates. The Fed RRP still stands above US$2 trillion. UCITS funds do not have access to the same Fed facilities. Peer-to-peer repo could offer additional outlets for cash investment which deliver more competitive rates against this backdrop of continued cash abundance.

Regulatory and compliance considerations also present changing demands on market participants. Some regulations will require additional reporting (the Securities Financing Transactions Regulation, or SFTR, for example) or even bifurcated liquidity (via multilateral trading facilities). However, there can also be opportunities for streamlined regulatory compliance through peer-to-peer repo.

For example, UCITS concentration limits are a factor.

For reverse repos, the concentration limits look through to the underlying securities being provided as collateral. Peer-to-peer repo solutions can provide an effective outlet for cash investment to help firms to manage within concentration limits.

The success of peer-to-peer in the European markets will stem liquidity that can be brought to the programme. The launch of a centralised platform to pool this liquidity will help with price discovery and centralisation, while allowing for increased scale.

With State Street's solution, the firm has found the following client benefits:

Indemnification: State Street provides an indemnification to the cash lender, guaranteeing the cash borrower's payment obligations. S&P has reviewed the terms of the guaranty, affirming that the guaranty meets S&P's principles for credit substitution of an unrated counterparty.

Streamlined documentation: rather than signing bespoke documentation on a per counterparty basis, State Street has created a streamlined set of documentation. Once executed, the documentation facilitates counterparties to trade freely between participants.

Competitive economics: in a rising and competitive rate environment, the peer-to-peer structure may facilitate yield enhancement for cash investors and provide favourable financing for cash borrowers. In avoiding bank's balance sheets, State Street anticipates lenders will receive a premium compared to dealer-offered repo rates.

Workflow automation: in an effort to bring liquidity sources together, generate critical mass, and automate the trade workflow, State Street has partnered with FinOptSys to create an electronic peer-to-peer marketplace — Venturi SM. This platform allows counterparties to access and automate the full trade lifecycle. Further, State Street serves an administrative function, providing daily margin requirements and reporting on outstanding guaranteed transactions.

Although peer constructs have continued to grow in fits and starts across EMEA, State Street has worked to build a solution that addresses previous viability concerns. The collation of indemnification, a centralised trade negotiation platform, triparty collateral management and streamlined documentation may allow European market participants access to their buy-side counterparts directly. The aim is to disrupt the traditional methods of repo trading and empower the buy side.

"Market practitioners need to have many tools in the toolbox to deal with funding, cash investment and liquidity needs in this rapidly evolving environment"

Cassandra Jones
Managing director and EMEA head of securities finance client management
State Street

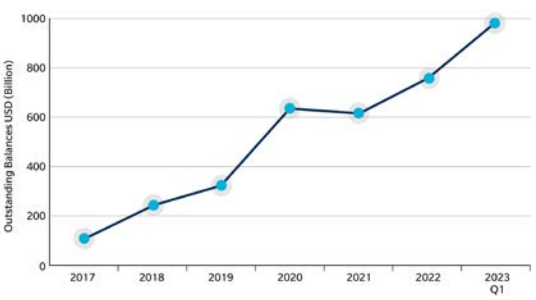
Reaping the rewards of electronification

Electronification is revolutionising the repo market, bringing greater transparency and delivering time and cost efficiencies. These advances mark the beginning of a new era for repo in which automation, trading tools and connections to other markets will unlock more value for clients, says James Kelly, head of European repo at Tradeweb

The electronification of the repo market is now well advanced and momentum is growing. At Tradeweb, we have seen our global average daily volumes of institutional repo trades rise by 16 per cent year-on-year to reach US$243 billion by the end of the first quarter of 2023, while outstanding balances stand at US$993 billion. This represents a near ten-fold increase in outstanding balances in the last five years.

There are 47 dealers signed up to our repo platform globally and more than 100 clients. Very soon the majority of repo trading will be electronic — a major transformation for a market long dominated by manual and voice trading.

Figure 1: Global outstanding balances year end



With increased market volatility, higher interest rates than we have seen for more than a decade and central banks shrinking their balance sheets, we expect to see funding spreads widen and repo trading flourish as participants look more to private funding markets. Electronification has already proven its potential and is set to be an invaluable tool in repo's future.

The pioneer trail

Tradeweb was the pioneer in dealer-to-client electronification of repo. In 2016 we re-launched our repo trading service. The starting point was a core product for fixed-rate and fixed-term government bonds aimed squarely at hedge funds and other asset managers looking to leverage their assets.

The benefits of electronification are straightforward and immediate. Full electronification, integrating straight-through processing (STP), removes the task of manually booking trades and reduces errors. This cuts down operational risks and allows increasing traded volumes and scalability.

Some market participants had concerns that electronic trading could undermine the traditional one-to-one relationships between sell-side traders and clients, and buy-side's access to dealer balance sheets. But, in practice, the exact opposite has proved to be the case. Electronification has freed traders from the burden of manual booking, releasing time and resources that can be used to build deeper relationships and to provide value-added services. If anything, electronification is a boon to relationships between traders and clients, allowing businesses to become more scalable and profitable.

Regulatory reform has been another significant catalyst for electronification. Trading repo on an electronic platform can help clients comply with the Securities Financing Transactions Regulation (SFTR) and can also help to reduce and minimise fails and potential penalties for fails or late deliveries as a consequence of the Central Securities Depositories Regulation (CSDR). Furthermore, the Basel regulatory agenda has pushed a growing number of binding constraints for the sell-side, who are increasingly focused on balance sheet and capital. Automation can help banks to efficiently address some of those constraints.

Since those early days of shifting behaviours towards more digital workflows, not only has the use of electronic trading for repo expanded, so too has our offering. Our platform has moved far beyond vanilla sovereign bonds into a true multi-asset class marketplace with live composite pricing, centralisation of trade flow, connections to order management system (OMS) providers, and, crucially, deep liquidity.

More recent developments include support for the lifecycle events of repo trades such as reprices, rerates, partials and closeouts. The facility — which we call our lifecycle blotter — is of particular value in the new environment of more frequent moves in central bank rates. Before electronification, a change in the central bank rate required rebooking trades — a time-consuming, manual exercise. But with the lifecycle blotter, hundreds of trades can be re-rated in a matter of seconds, helping to bring standardisation to this part of the market. In addition to the lifecycle blotter, we have improved workflow function around supporting GC basket trading and are expanding our footprint in cleared repo via the LCH sponsored clearing model.

Tomorrow's repo

The user base for our electronic platform continues to expand, not just in sheer numbers but also in the types of institutions. For instance, central banks and sovereign wealth funds are holders of collateral that have historically traded repo manually; these types of institutions are now commencing the move to trading electronically.

There are two key platform enhancements we are working on at the moment. The first one is dealer axes, which will provide repo traders with an additional liquidity discovery tool, affording them the same levels of functionality typical in other markets, yet customised for bespoke requirements in the repo markets. The second development is the integration of repo trading into broader strategies involving a wider range of assets and instruments, which, in turn, will drive its growth and sophistication.

For example, connecting repo to other markets will allow users to leverage our swaps platform to hedge repo and manage rates risk. Another example would be a user looking to go short in the cash market, and we are looking at ways to give traders transparency on liquidity and potential borrowing costs.

Tradeweb is already well placed to offer these cross-product connections, having mature offerings in these markets. We believe electronification puts the repo market on the threshold of a new era. Aggregate market-level data on repo is another resource that electronification can unleash. Data services are increasingly regarded as standard for platforms catering to other markets and Tradeweb provides those in other products. Developing similar services for repo is a natural next step.

As a specialist in repo electronification, clients have come to Tradeweb to meet and facilitate their repo requirements. As activity and trade volumes have grown, clients have increasingly turned to us to ask what can be done around improving on the limited market data that exists today. Naturally, we are deeply aware of data-related sensitivities and we are taking considered steps regarding how we can best unlock our significant data resources, while ensuring the correct methodologies are applied and full client anonymity is preserved. The potential for data-driven, added-value services to drive trading profitability and enhanced risk management in the future is significant.

As well as promising ever greater depth and sophistication to repo trading, there is also the prospect of greater breadth as other markets accelerate their adoption of electronification. The Japanese Government bond market, for instance, is the third-largest sovereign market in the world and the wider Asian market represents a huge opportunity.

On the threshold

The electronification of repo trading has come a long way in a few short years and Tradeweb is proud to be a leader in its development. But the transformation has further to go, in both scale and complexity.

The future of repo lies in full STP trading, in which the wide community of institutions — from funds to asset managers and central banks — are part of an international electronic repo ecosystem. To take full advantage of this potential will require platforms that sit within a web of systems connected to other assets and instruments, so integrating repo fully into trading and investment strategies is essential.

Tradeweb has been, and continues to be, a pioneer in the electronification of repo and thousands of clients are already reaping the benefits of improved operational efficiency and profitability across our products. But as electronification advances, there is even greater value yet to be unlocked and we believe a multi-asset, multi-currency and multi-product marketplace like ours can help institutional repo trading unleash its full potential.

James Kelly
Head of European repo
Tradeweb

Intraday repo: how DLT will transform the short-term funding markets

Broadridge's Paul Chiappetta, vice president of product management, and Bonita Blaney, senior director product management, review the advantages offered by intraday repo and how new technologies are changing the dynamic to allow a new go-to source of short-term funding

The development of intraday repo could represent one of the most important innovations in the history of global repo trading. Until very recently, intraday repo was almost exclusively restricted to certain forms of central bank repo. Today, major banks such as J.P. Morgan, UBS and DBS are executing intraday repos on systems such as Broadridge's Distributed Ledger Repo (DLR) and J.P. Morgan's Onyx.

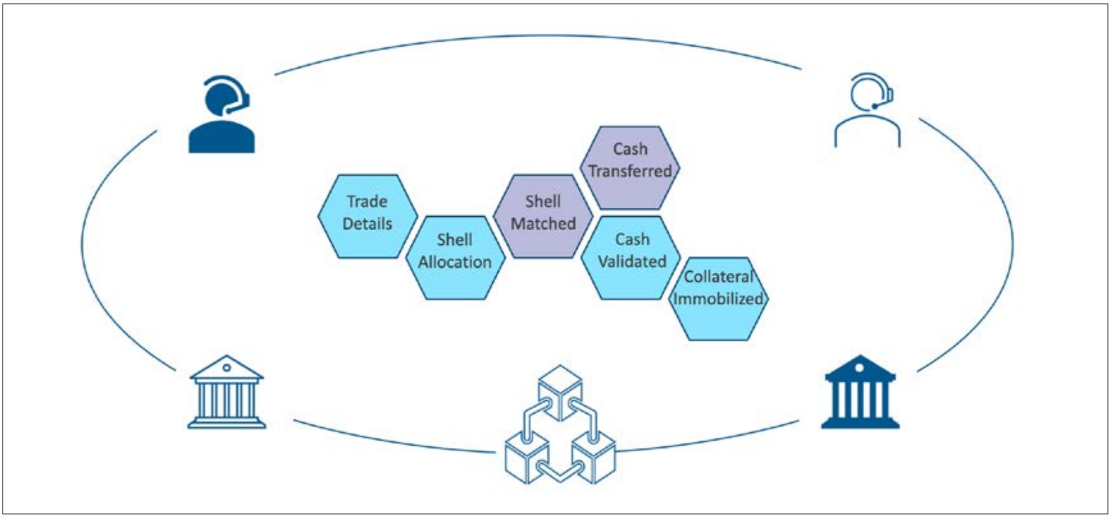
Both systems use distributed ledger technology (DLT) that provides the velocity, transparency and security needed to make intraday repo possible. As other banks and buy-side firms explore extending their repo businesses to intraday trading, these DLT solutions appear poised to transform the market — and potentially save banks and brokers millions of dollars every year.

An imperfect tool

Repo has long been an essential tool for managing liquidity. Throughout the course of a day, banks, broker-dealers and other market participants experience both predictable and unpredictable cash flows.

Predictable cash flows include securities settlement, the dollar legs of foreign exchange transactions, maturing loans or securities and corporate actions. Unpredictable cash flow events include margin calls from central counterparties (CCPs), new securities lending transactions, the cash-flow impact of settlement failures, and the transfer of funds by clients of banks and broker-dealers using gross settlement mechanisms such as Fedwire.

Figure 1



The hard-to-project nature of these intraday cash flows can result in clearing account deficits lasting minutes or hours. Even so-called “predictable” cash flows can contribute to deficits, since in many cases the precise timing of the cash-flow event within the business day is not known in advance.

Account deficits expose market participants to some significant costs. Daylight overdrafts are fees charged by the Federal Reserve to member banks for negative balances in an institution’s account at any point in a business day. If a bank is connected to Fedwire, the Federal Reserve guarantees to make payment with daylight overdraft — non-banks can also have daylight overdrafts on their clearing accounts.

Collateralised forms of borrowing and lending, such as overnight repo, help market participants avoid deficits and daylight overdrafts, reducing credit risk for the lender and interest charges for the borrower. Funds lent against high-quality collateral such as treasuries can be delivered almost instantly. However, overnight repo transactions are hardly an ideal solution in that the bank or broker-dealer is often stuck paying the cost of overnight interest to cover account deficits that may only last minutes.

In 2021, the Federal Reserve of New York reviewed data from the Fixed Income Clearing Corporation (FICC) and general collateral finance (GCF) markets to analyse the timing of overnight repo trades, or trades in which the near leg settles today and the far leg settles the following business day. The study found that the majority of “overnight” trades are executed in the early morning. Almost two-thirds of treasury FICC delivery-versus-payment (DvP) repo volume was completed between 07:00 (when the market opened) and 08:30. In overnight treasury GCF, 62 per cent was completed by 08:30. For both markets, around 90 per cent of trading was completed by midday.

So why are so many banks and broker-dealers looking to secure overnight funding so early in the day? According to the Fed report: “The factor that market participants most consistently cite is the start of daylight overdraft fees assessed by clearing banks at 08:30 to dealers that have not funded their clearing accounts. These fees are particularly meaningful for smaller, independent broker-dealers that raise a substantial portion of their funding in interdealer repo. Therefore, smaller dealers make every effort to fund as early as possible.”

These results suggest that banks and broker-dealers could be spending millions of dollars for overnight funding that they would not need if they had access to shorter-term funding.

> *“Sometimes called micro-funding or repo-by-the-minute, intraday repo is a standard repo trade with both the start and end leg settling on the same settlement date”*

Saving market participants millions

The obvious solution to the problem is intraday repo. Sometimes called micro-funding or repo-by-the-minute, intraday repo is a standard repo trade with both the start and end leg settling on the same settlement date. Intraday repo provides flexibility in funding, giving a dealer the option to fund themselves for an hour or two to cover liquidity spikes that may occur throughout the day, mitigating the financial impacts that would otherwise be caused by such fluctuation.

An intraday repo trade can last for minutes to hours, with the cash lender receiving a fee for their principal investment rather than a standard repo rate. This fee can be determined either as a set amount for a specified period of time as agreed at the outset of the trade or calculated dynamically by applying a rate for every minute the loan is open, and then creating a fee for the aggregation of those per-minute charges.

Poised to transform repo markets

The only thing preventing intraday repo from becoming a go-to source of short-term funding for banks and broker-dealers has been the fact that the traditional infrastructure simply was not built to complete and settle trades in minutes or hours.

The emergence of DLT has changed that dynamic completely. DLT provides the velocity required to instantaneously agree, execute and settle an intraday repo transaction. In a DLT environment, collateral does not need to be physically transferred. Instead, the underlying security is immobilised, with ownership maintained through smart contracts utilising a digital representation of collateral.

The smart-contract methodology employed by solutions like Broadridge's DLR platform streamlines the process by creating a mutualised workflow, allowing the cash lender and securities borrower to see the entire lifecycle of the trade in real-time. This synchronisation allows both parties to monitor cash and securities and track the fee accrual throughout the duration of the trade, ensuring accurate settlement at a precise, predetermined time.

These blockchain-enabled solutions can integrate with front-end systems used by banks and broker-dealers. That ability allows intraday repo transactions to seamlessly flow into existing daily firm financing and position management workflows. Users can enter intraday repo transactions manually, or trades can be fed into the front-end system via automated trade feeds, simultaneously updating positions in real-time and passing the trade details to the DLT solution for settlement and processing.

Interest is calculated from a fee entered on the trade. Because that fee and interest payment cover an interval shorter than the minimum overnight term, the cost will be significantly lower than the standard repo rate currently entered on non-intraday overnight, term and open repo transactions.

As these DLT solutions take root among sell-side firms and begin to attract securities lenders from the buy side, they are poised to transform short-term funding markets, potentially saving banks, broker-dealers and other market participants millions.

Paul Chiappetta
Vice president of product management
Broadridge

Bonita Blaney
Senior director product management
Broadridge

Industry associations urge review of SEC treasury clearing proposals

Bob Currie examines how the industry has reacted to SEC proposals, announced for consultation in September 2022, that could mandate central clearing for a wide array of US treasury-based transactions, potentially including repo, securities lending and UST cash securities trades

In September, the US Securities and Exchange Commission (SEC) put forward a proposed set of rules designed to enhance risk management practices for central counterparties in the US treasury (UST) market and to encourage central clearing of a wider range of UST-based transactions.

The SEC notes that the US$24 trillion US treasury market — "deepest, most liquid in the world" — is the foundation upon which so much of the US capital market is built. "Treasury markets are integral to how the Federal Reserve administers monetary policy. They are how we, as a government and as taxpayers, raise money," says the SEC.

SEC chair Gary Gensler indicates that he is pleased to support these rules because, if adopted, "they would help to make a vital part of our capital markets more efficient, competitive, and resilient". But these benefits are assumed in the SEC's proposal, rather than demonstrated through clear argument based on empirical data. This is not to understate the benefits of central clearing, which have been widely articulated in Securities Finance Times. But if the SEC is to mandate central clearing for a wide range of UST-based transactions, it is important to be clear where existing risk and inefficiency resides — and how CCP clearing will solve this problem.

In making the case for the Proposed Rule, the SEC indicates that in 2017 only 13 per cent of US treasury cash transactions were centrally cleared. In the 1990s, by contrast, the Commission suggests that this ratio was significantly higher — prior to 2000, all users of interdealer broker (IDB) platforms were members of central clearing houses and their trades were centrally cleared. Since this time, the SEC maintains that there has been a significant increase in principal trading firms (PTFs) trading in this market and IDBs are taking on clearing house-like functions, even though they are not regulated as clearing houses. "This leaves our system potentially vulnerable to risks that may emanate in particular from those IDBs, PTFs, and hedge funds in the US treasury markets," says Gensler.

Among other steps, the SEC plans to amend the standards applicable to clearing houses (or "covered clearing agencies", CCAs) for US treasury securities, obliging each CCA to apply written policies which require direct participants to submit all "eligible secondary market transactions" (ESMTs) in treasury securities for clearing and settlement. It also proposes selective amendments to CCA risk management standards designed, according to the SEC, to protect investors, reduce risk and increase operational efficiency.

Access to clearing

In responding to the SEC consultation proposal, Jennifer Han, chief counsel and head of global regulatory affairs at the Managed Funds Association (MFA), states that although the MFA supports the Commission's intentions to strengthen the US treasury market, the first priority should be to expand the availability of central clearing.

Without this, the MFA believes that the SEC's proposal is likely to be counterproductive, potentially reducing market efficiency and resilience by making it more difficult and expensive for investors to transact and, ultimately, increasing market concentration and risk.

With this in mind, this buy-side trade association advises that the SEC's proposals should focus initially on market segments where the benefits of central clearing are most obvious and existing market infrastructure is best able to support more central clearing — which, in the first instance, should be for bilateral repo and reverse repo transactions.

In contrast, the MFA does not believe that mandatory central clearing is appropriate at the current time for UST cash securities transactions, or that mandatory clearing should be applied for triparty repo transactions.

"Rather, the potential benefits of central clearing are less significant with respect to these types of transactions relative to bilateral repo transactions, while the costs are likely to be significant and outweigh those potential benefits," says Han.

Specifically, the MFA advises that expanding the clearing mandate beyond bilateral repo transactions would "interact unfavourably" with existing practices in the areas of cash and collateral management and securities custody, for example by inhibiting same-day access to treasury securities for investment or margining purposes.

The International Swaps and Derivatives Association (ISDA) conducted a survey of market participants during 2022 to gauge the industry's appetite for additional clearing requirements for UST cash securities and repo transactions. The survey reveals a diversity of views on whether extension of clearing would improve the resilience and efficiency of the UST marketplace. Many, it noted, were generally supportive of clearing, but few supported broad clearing mandates, believing this could prompt some participants to reduce their activity or to withdraw from the market entirely, thereby reducing market liquidity.

However, many did support reforms that they believed would improve efficiencies in the UST marketplace, including provision of relief under the supplementary leverage ratio (SLR), steps to improve access to indirect clearing, and the ability to post client collateral to the clearing agency. Respondents also highlighted potential for facilitating additional cross-margining opportunities between cleared cash and futures markets.

ISDA notes that the SLR, risk-weighted asset (RWA) and global systematically important bank (GSIB) surcharges are binding constraints on some banks and these regulatory overheads have prompted some firms, over time, to exit certain business lines. ISDA is therefore supportive of adjustments to the SLR and GSIB surcharges, for example, which would bring greater cost efficiency and balance sheet efficiency to banks' trading activities in the UST marketplace. "We recognise that the SEC does not itself have the ability to modify the SLR, but we strongly encourage the SEC to work with prudential regulators to implement modifications prior to finalising the proposal," says Ann Battle, senior counsel for market transitions at ISDA.

Securities lending

Commenting on the SEC's proposals, the Risk Management Association's (RMA's) director for securities lending and market risk, Fran Garritt, and chair of the RMA committee on securities lending, Mark Whipple, raise concerns that if the SEC Proposed Rule is adopted, US treasury repo transactions conducted by lending agents when reinvesting cash collateral — collateral received on behalf of beneficial owner lenders through securities lending trades — would need to be cleared through a CCA.

The RMA Council questions whether it was the SEC's intention to capture reinvestment of cash collateral through UST repo transactions under the Proposed Rule. As such, it asks the Commission to conduct further research on the impact of these proposals on agency securities lending before taking further action towards mandatory clearing.

More generally, the RMA indicates that it opposes the inclusion of securities lending trades in the list of eligible secondary market transactions that should be subject to mandatory clearing. "Owing to the razor thin spreads on US treasury securities lending transactions," proffers the RMA, "any additional capital or liquidity costs to lending agents, or requirements for additional margin or clearing fund contributions, could result in these transactions not making economic sense for any party."

For Q2 2022, the RMA's data indicates that slightly less than US$2 trillion of US treasuries were available in securities lending programmes as lendable assets, with just under US$660 billon on loan globally. For these on-loan securities, more than US$265 billion of US treasury securities were on loan against cash collateral.

"As treasury securities lending transactions are low-risk, low-spread transactions, requiring them to be cleared through the Fixed Income Clearing Corporation (FICC) would impose additional costs and margin, which could cause some treasury securities lending transactions to become economically unviable for beneficial owners or lending agents," says the RMA in its response to the SEC. "Fewer treasury securities lending transactions could lead to reduced liquidity in the overall treasury market."

Clearing models and incentives

The Securities Industry and Financial Markets Association (SIFMA) advises that the SEC should consider sequencing its approach to reforms in the US treasury clearing market in a different order. Specifically, the Commission should start with providing better incentives for firms to enter UST trades for central clearing without prematurely making it a requirement.

At root, this should begin with CCAs offering more efficient and straightforward clearing models that offer better protection for investors. With these improved models in place, SIFMA believes this will encourage more market participants to clear UST-based transactions voluntarily and will encourage greater liquidity.

According to managing director and assistant general counsel of SIFMA's asset management group William Thum, the SEC should only introduce a broad requirement to clear when it has already tested other mechanisms designed to incentivise central clearing and after these have demonstrated improvements to the operation of the UST marketplace.

Before central clearing is made mandatory in the UST markets, SIFMA says, the industry must also have a more robust clearing ecosystem that has been designed with input from all relevant stakeholders. Specifically, the SEC should "only impose a clearing mandate when FICC *and at least a second covered clearing agency* (emphasis added) are able to offer access to clearing solutions that will fulfil enhanced rule requirements and meet the needs of market participants."

Addressing a similar point, the RMA contends that the SEC Proposed Rule is likely, in its current form, to bring higher concentration risk through raising clearing volumes through DTCC-owned FICC as a single clearing entity. "The Proposed Rule, to include UST securities lending transactions in addition to UST repurchase transactions, would concentrate all of the counterparty risk associated with these transactions with a single CCA," says the RMA. "In determining whether to adopt the Proposed Rule, the RMA Council urges the Commission to carefully consider that any disruption or failure of this single CCA, whether financial, operational, or technological, would almost certainly harm beneficial owners, lending agents, borrowers, the capital markets, and ultimately, the global financial system as a whole."

Additionally, for SIFMA, the clearing model ultimately delivered through these SEC proposals must offer protection that more closely mirrors the risk management framework applicable for FCM-cleared OTC derivatives. "Although the market for US treasury transactions is very different from the OTC derivatives markets, prior to any clearing mandate being imposed, there must be an available clearing solution which provides market participants with a level of resilience and protection more like that currently provided for cleared OTC derivatives cleared through a futures commission merchant (FCM)," says Thum. "Among other things, this model should ensure that collateral posted by customers is appropriately segregated and not subject to the risk of a direct clearing member default."

Elaborating on this principle, Futures Industry Association president and CEO Walt Lukken explains that, among other requirements, FCMs must hold these funds and securities in customer segregated accounts established in accordance with the provisions of Commodity Futures Trading Commission (CFTC) Rule 1.20 (with regard to futures traded on US futures exchanges) and Rule 22.2 (with regard to cleared swaps). Specifically, an FCM must deposit futures customer funds with a bank, or other permitted depository, under an account name that clearly identifies them as futures customer funds. In doing so, it must obtain a letter from the depository which acknowledges that the FCM has deposited money or securities held on behalf of a customer.

"The depository acknowledges that such customer assets 'will be separately accounted for and segregated' on the depository's books from the FCM's own funds 'in accordance with the provisions of' the CEA and the CFTC's rules, and 'must otherwise be treated in accordance with the provisions of section 4d of the [CEA]' and the CFTC's rules," the FIA explains.

SIFMA indicates that it is also important that market participants have access to standardised documentation to govern their clearing relationships, along with industry legal opinions that address the enforceability of netting and collateral arrangements for cleared treasury transactions under applicable bankruptcy laws. "To our knowledge, no such standardised documentation or legal opinions currently exist for the clearing models currently accessible to indirect participants clearing through FICC," says Thum.

With these considerations in mind, there is a case for requiring separation of initial margin from default fund requirements at FICC that can be subject to loss mutualisation. This may improve capital efficiency for banks and bank-affiliated dealers, but may also widen participation from firms that are currently prevented from participating in loss mutualisation arrangements.

More broadly, industry commentators advise that the SEC may need to make rule changes to enable a debit under the SEC Rule 15c3-3a customer reserve formula, enabling broker-dealer direct participants at the clearing house to pass customer margin through to the CCP, thereby simplifying the mechanisms through which margin can be transferred to the CCP on behalf of indirect participants.

Costs and benefits

In concluding, the MFA observes that the costs of requiring central clearing of triparty repo transactions and cash market transactions are likely to outweigh any potential benefits. "Relative to bilateral repos, triparty repo transactions already provide for additional risk mitigants and protections due to the role of the triparty agent and related regulatory oversight of the market," says the MFA's Han.

More broadly, the MFA proposes that cash UST transactions do not present the same level of credit risk as repo transactions, which implies that a principal benefit of central clearing, namely risk mitigation, will be less obvious in these markets. This may particularly be the case for indirect clearing participants, where the MFA indicates that "certain more frequently used clearing models for cash transactions do not provide meaningful opportunities for clearing-related netting and risk mitigation benefits for indirect participants." SIFMA believes that the SEC, and other financial regulators, need to engage in additional analysis of the US treasury market, considering all available market data, before imposing central clearing on broad portions of this market.

"Given the state of the existing clearing infrastructure, the immediate benefits of a central clearing mandate are not obvious, and more evidence is required to demonstrate how clearing will mitigate contagion and systemic risk and improve capacity and resiliency in this market," concludes SIFMA's Thum.

Specifically, SIFMA indicates that it has seen no convincing data demonstrating how a requirement to centrally clear, along the lines advanced in the Proposed Rule, would have fixed some of the recent liquidity problems highlighted by the SEC — for example, the "flash rally" of 2014, the stress in the US treasury repo market during September 2019 and the COVID-19 market shock of March 2020.

Like the MFA, SIFMA does not currently support a clearing requirement for UST cash transactions. In SIFMA's view, any requirement to clear cash transactions will "increase costs, generate operational complexities and reduce liquidity", without producing meaningful benefits to address perceived shortcomings in the UST cash transaction market.

Pittsburgh-based investment manager Federated Hermes questions the need for an extension of central clearing for UST-based repo trades, indicating that the SEC "does not cite any circumstances where parties have encountered difficulties in clearing and settling repurchase agreements".

Specifically, Federal Hermes believes that the SEC's Proposed Rule fails to take into account significant changes regarding clearing of triparty repo trades that have been implemented since the 2008 financial crisis. "The clearing bank handles the settlement of triparty repurchase agreements through its collateral allocation systems and [this] has resulted in a well-functioning process that already operates under severe time constraints," says Federated Hermes.

The asset manager indicates that it has also not experienced significant difficulties in clearing and settling US treasury repo trades on a bilateral basis. "These repurchase agreements are settled on a same-day, DvP basis," it notes. "[We] give instructions for the settlement of these repurchase agreements as soon as they are confirmed, so settlement generally is completed as rapidly as possible."

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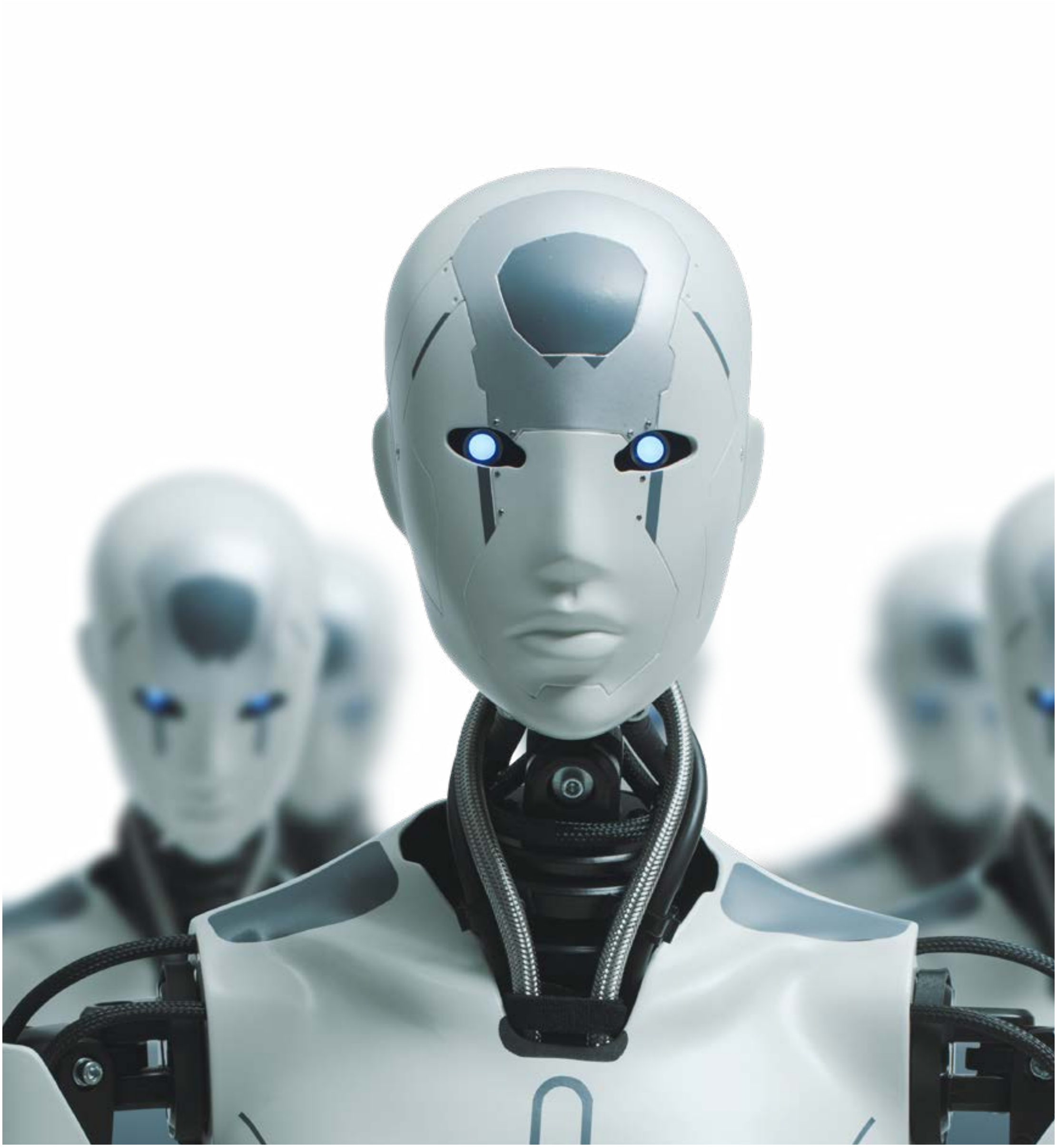

CDM: promoting data standardisation across the trade lifecycle

Bob Currie reports on efforts to promote a common digital representation of lifecycle events for securities lending, repo and derivatives trades and examines what comes next on the Common Domain Model project agenda

The Common Domain Model — or CDM — provides a common data representation of transaction events, offering a common template or set of fields that the industry will use to share trade information and other key data. Among multiple benefits, CDM adoption aims to reduce the burden of reconciliation and lower the risk of mismatches or settlement failure caused by inconsistency in how data fields are used.

For four years, the International Swaps and Derivatives Association (ISDA) has been active in the OTC derivatives market in promoting a common digital representation of the steps, or 'lifecycle events', associated with a derivatives transaction.

Subsequently, the International Securities Lending Association (ISLA) has been working with ISDA and the International Capital Markets Association (ICMA) to apply a CDM to securities lending transactions, and ICMA has been doing similarly for repo and bond trades. Aligned to this activity, these trade associations have been working to develop digital versions of their market standard master agreements.

In May 2022, the three industry associations which have collaborated to deliver the CDM project issued a tender to meet the requirements of providing a repository for the CDM resources.

The requirements included maintaining the CDM code, facilitating the growth of a community of CDM contributors, and creating governance structures which allow these contributions to be overseen by the associations. On the basis of this request for proposal (RFP) and selection process, FINOS was appointed in September 2022 to provide this repository service, enabling users to access CDM resources as open source.

In line with this agenda, Ian Sloyan, senior adviser, data and digital solutions at ISDA, explains that the recent project focus has been on moving the core of the CDM to the open-source repository at FINOS. "We are taking the CDM elements that will be made open source, which is the vast majority of the CDM code, and managing its migration into the FINOS repository — in doing so, we are aligning with the governance structures that FINOS requires," he says.

ISDA indicates that it welcomes the opportunity this will offer to broaden the base of CDM contributors and to use the open-source tools and best practices available through FINOS to widen the scope of contributors. "To date, many of the contributions to the CDM project have been coordinated through the trade associations and their technology partners," says Sloyan. "As part of the FINOS community, this will enable us to link with a wider range of projects under the FINOS umbrella and to align more easily with industry standards and protocols, including FIX and ISO 20022 standard messaging supported on the SWIFT network."

Trade negotiation

ISLA's CDM Trading Working Group was established at the end of Q1 2022, providing an open invitation to vendors and other market participants in the trading space to apply the model to their trading solutions and to deliver greater standardisation across securities finance trading activities.

"As an Association, ISLA has played a role — alongside ICMA and ISDA — in facilitating this conversation," says David Shone, director of digital affairs at ISLA. "We identified an opportunity through CDM to standardise trade negotiation workflow, which is our first step into applying the workflow elements of the CDM."

Now, the CDM Working Group is looking to move beyond the product, transaction and legal components, which have been its primary focus until now, to apply the CDM more widely across the transaction value chain — recognising that there is great value in applying standardised procedures to operational processes.

In February, the three trade associations held an industry event in London to profile the work that has been done to develop a CDM for the securities financing, repo and derivatives markets, providing opportunity for firms to discuss concrete use cases and to share their experiences in applying CDM.

Open collaboration

FINOS was established to provide a forum for non-competitive open collaboration between participants in the financial services industry. In pushing this objective, it aims to offer both the open-source tools and the community of users that will propel the development and adoption of the CDM.

In 2020, FINOS staged a pilot programme for submitting changes to the CDM model using Legend, its open data modelling collaboration platform developed initially by Goldman Sachs in collaboration with FINOS and a number of other large global investment banks.

In addition, the FINOS Financial Objects Special Interest Group (FO SIG), led by Goldman Sachs and ISDA, provides a forum for collaboration on data modelling for a range of business use cases, for example carbon credits for energy projects and data lineage of digital assets.

"We have a successful track record of model development using Legend at FINOS and we are fully committed to establishing an operating model that incorporates both Legend and Rosetta [a language and tool set developed by REGnosys] in the CDM modelling process," says Ian Sloyan, ISDA's senior advisor, data and digital solutions and a co-lead of the FO-SIG.

At a recent Open Source in Finance Forum in New York, ISDA released its Digital Regulatory Reporting (DRR) live in production with one of its association members, BNP Paribas, using code developed using the CDM to meet regulatory reporting obligations under the US Commodity Futures Trading Commission's (CFTC's) revised swap data reporting rules.

In a joint statement released on 18 February 2023, ICMA, ISDA and ISLA announced that the CDM is now available in FINOS under the FINOS Community Specification License 1.0. Further details are available via the FINOS Common Domain Model web page or via the GitHub.

Mike Lambert from Broadridge and Robert Miles from GLMX presented at this CDM Showcase event, which illustrated the practical steps that the group has done and their work as vendors in turning this into practical application.

This explained the workflow in diagrammatic form and then in coded form through examples using Rosetta, REGnosys' regulatory reporting platform. This use-case employs "propose-counter-accept" workflow for trade negotiation. With this, the user can accept a proposal and execute. Alternatively, the user can issue a counter proposal, amending the original and presenting this back to the counterparty for review — with the proposal going backwards and forwards as many times as required. Or the proposal can be rejected.

This provides a mechanism for automated negotiation between counterparties that largely eliminates manual touch points.

Code reusability

In their CDM work to date, and in their future plans, the trade associations have adopted a deliberate strategy to focus on different parts of the transaction workflow. Chris Rayner, ISLA senior associate for market infrastructure and technology, points out that development work on trading workflow conducted by ISLA is applicable not only to securities lending trades, but may be applied more widely in modelling derivatives, repo and other trade types — and this is similarly the case for the work done by each of the trade associations. The standardisation offered by the

CDM is key to enabling re-use of CDM objects across trade types and use cases.

For ISDA, a core component of its recent CDM development work has been on digital regulatory reporting. The challenge of ensuring that market participants report their derivatives trade data in the correct format — and maintain accurate and timely trade reporting as regulation is constantly released and amended — has been a major overhead for the derivatives industry. This has been a key driver for its Digital Regulatory Reporting (DRR) initiative.

This DRR project aims to deliver a standardised data model to guide trade reporting. Rather than each firm creating a regulatory reporting solution based on its own interpretation of the rules, market participants are developing an industry-led standardised interpretation of the regulation as open-source code. In turn, DRR will allow regulators to publish reporting rules as machine-executable code that can be automatically read and interpreted by the IT systems of reporting firms, thereby improving the reporting process across asset classes.

In November 2022, BNP Paribas was the first company to go live with the DRR under the CFTC's amended swap data reporting rules in the US, representing the first implementation of ISDA's DRR solution in a real-world production-level environment, with trade data submitted to the DTCC's swap data repository.

Commenting on this development, ISDA's director of data and reporting Andrew Bayley, explains that DRR is live for the CFTC's amended swap data reporting rules and ISDA is now working on EU reporting rules under revisions to the European Market Infrastructure Regulation (EMIR), or EMIR Refit. Many of the same firms that participated in the CFTC initiative are involved in the build for the EMIR Refit, with new firms joining on an ongoing basis. This, he suggests, reflects the success of the DRR service and the positive feedback it has generated since BNP Paribas announced it is using the DRR for its CFTC reporting.

Other jurisdictions are now preparing for similar rule rewrites. For example, the Japanese Financial Services Agency (JFSA) has announced it will implement amendments to its derivatives reporting rules in April 2024. Updates are also being made in Australia, Canada, Singapore and the UK.

One of the strengths of the DRR, Bayley believes, is the reusability of code which will help speed up the modelling process. For example, ISDA anticipates that the combined EMIR and CFTC rule set will cover more than 90 per cent of the JFSA requirements.

"In short, we are no longer starting from scratch for subsequent regulatory implementations," he says. "The development process for the CFTC amendments took just over 12 months, but this could fall to a few months in future. As regulators make further incremental changes, the implementation time could fall to a few weeks or even days, depending on how significant the changes are."

The DRR can be used in different ways. For example, BNP Paribas is utilising the DRR to generate its outgoing reports. But firms could also use an in-house solution or an alternative vendor to generate their regulatory reports and use the DRR to validate their implementation against the regulatory requirements.

Repo lifecycle

ICMA is set to conclude Phase 2 of its CDM project for repos and bonds close to the end of Q1 2023, enabling users to automate repo processing and to streamline trade reporting.

The Association reports that its focus during Q4 2022 was on finalising technical programming of repo structures and processes into the CDM model. It has been working with REGnosys to capture repo lifecycle events such as interest rate changes, close and reopening of a trade position, and shaping a trade — splitting a large trade into smaller elements to improve settlement efficiency.

ICMA was approached for an interview for this article, but did not put forward a spokesperson prior to publication. However, SFT understands that the next steps in ICMA's CDM project include integrating elements of the General Master Repo Agreement (GMRA) clause library as a foundation for smart contracts and to apply commonalities between the ICMA Common Data Dictionary for primary bond markets and the CDM to facilitate issuance, trading and settlement of DLT-issued bonds.

More broadly, beyond CDM, ICMA's DLT Bonds Working Group continues to work to advance the development of nascent DLT bond markets and to liaise with financial supervisors, investors and issuers on raising awareness and understanding of this digital asset class.

Pre-trade accuracy

For ISLA's CDM Trading Working Group, one of the next items on the project agenda will be to tackle loan availability. Mike Lambert, securities lending product director at Broadridge Financial Solutions, notes that in assessing loan availability, a firm may receive information from multiple lenders, each of which may employ a different data format and a slightly different definition of what loan availability means. For the recipient, the challenge is to take in this data — sometimes via API, but often sent as an excel file or via email — to collate, validate and normalise this data before it can be used as an input for trade negotiation. This data cleansing and validation process is resource intensive — and the working group is confident that CDM will bring major benefit in standardising data formats and reducing costs of data cleaning.

To date, ISLA's CDM Working Group has focused its initial energies on trade negotiation, digital documentation and other pre-trade processes. Lambert explains that its rationale was twofold. By getting the pre-trade elements right, this accuracy and standardisation feeds onwards throughout the trade lifecycle. Second, the pre-trade segment remains a relatively underserved part of the transaction lifecycle and has benefited from a concerted focus within the WG on how to eliminate pre-trade errors and mismatches — errors that are a frequent cause of downstream processing errors and STP breaks.

By applying CDM from trade negotiation downstream across the lifecycle, this eliminates the risk of mismatches and reconciliation breaks, creating a golden entry point where trade data is booked in standardised format prior to executing the opening leg of the SFT. Delivering standardisation pre-trade means less risk of downstream operational errors and it reduces the reconciliation burden.

In November 2022, ISLA also launched its Document Digitisation Working Group, which is focused on digitising the Global Master Securities Lending Agreement (GMSLA, relating to title transfer trades) and the Securities Interest over Collateral (for pledge transactions). This group is administered by D2 Legal Technology (D2LT), but with contributions from key specialists in this space including document negotiation platforms such as SmartDX and Broadridge. Sixteen firms are now participating in this working group.

ISLA's David Shone indicates that the group is currently working with the Clause Library and translating this into the CDM's data structure. This will facilitate counterparties' ability to negotiate SLB transactions electronically and to create a CDM object that captures the legal terms of the trade, represented in the same model as the trade details and product representations that they govern. This paves the way for further automation of lifecycle events for SLB, repo and derivatives transactions.

The group has outlined the modelling principles, specifying the rules that should be followed. "We now have group members actively working to model their own agreement clauses," says Shone. "With multiple firms contributing, each is gaining modelling experience, applying the CDM principles to their own use cases and keeping the project advancing at good speed by sharing the development workload."

CDM repository

In February, the three trade associations migrated the CDM code into the FINOS repository and this is now available as an open-source resource. Some administrative details are still to be finalised, notes ISDA's Sloyan, but the CDM code is available to users via the FINOS GitHub common domain model page.

The inaugural CDM meetings at FINOS took place on 14 March and these CDM meetings are open sessions that can be attended by interested parties from across the FINOS community. There will be subsequent FINOS meetings to build, agree and maintain the code on an ongoing basis.

For collateral management, CDM development activities will be coordinated through a Collateral Working Group that will be administered by FINOS. Participation will be open to any firm that wishes to attend from the FINOS open source community.

As co-lead of the FINOS Financial Objects Special Interest Group (FO-SIG), Sloyan indicates that ISDA's focus to date has been principally on the DRR and it has not yet had opportunity to make big commitments to other use cases. However, through the FO-SIG, he notes that there is an ongoing dialogue on sustainability data and integrating that with the financial infrastructure, as well as standardisation of data elements to support the trade lifecycle for digital assets.

“We are confident that FO-SIG will provide a space where participants can discuss new ideas, and then those ideas can become reality, if applicable, via the CDM governance structures or through other projects at FINOS or elsewhere,” says Sloyan.

Outside of the DRR, Sloyan indicates that the primary focus for FINOS will be on collateral. Initially, this will centre on the development of digital collateral eligibility models that are built on CDM formats and will lower eligible collateral negotiation times, improve interoperability and streamline user onboarding by enforcing a standardised data structure.

Preliminary work is also ongoing to support further automation of interest calculation and processing for cash collateral, automating collateral calculations and movement of funds while reducing settlement fail rates.

Steps to improve data reconciliation are inherent to the CDM and this model will be applied to support automated portfolio reconciliation and collateral dispute resolution. By enforcing standardisation of data requirements, this provides opportunities for users to focus on mismatches and to deliver genuine exception-based workflow.

Production use-cases

Arguably, the CDM project is now reaching a tipping point where it has moved beyond proof of concepts to real-life production examples, where the securities finance community can see concrete applications of the CDM in live use cases and can identify this as a benefit to their company and to the industry at large.

“Firms may recognise, for example, that had CDM already been in place at the time that the Securities Financing Transactions Regulation (SFTR) was implemented, their preparations for SFTR would have been much more straightforward,” says Broadridge's Lambert. “By the same token, we believe that having CDM in place will make it significantly easier to prepare for future regulatory adaptation.”

For ISDA's Bayley, the time and resources committed to regulatory adaptation in recent decades has been enormous and broadly unsustainable. Financial supervisors recognise this and are focusing on steps to accelerate this process and reduce costs. The UK Financial Conduct Authority's (FCA's) Transforming Data Collection initiative provides one example. In the EU, regulators are engaging with the industry to promote machine-readable and executable regulatory reporting.

“No matter how regulators label these initiatives, it is likely they will promote standardised data models that look much like the CDM and deliver solutions that look much like ISDA's DRR initiative,” concludes Bayley. ISDA, ICMA and ISLA, as trade associations, are at the forefront in promoting CDM-based data modelling that will benefit financial regulators and the industry at large.

The repo market is dead, long live the repo market!

Cyril Louchtchay de Fleurian, consultant on repo markets and securities finance trades, argues that current inflationary pressures and central bank rate increases are delivering what 15 years of low interest rates have failed to do, reshaping a securities finance industry which has become vulnerable and outdated

We have been entering a VUCA environment: volatility, uncertainty, complexity, ambiguity.

This acronym, which was born in the military world, could perfectly characterise current Eurozone repo and money market conditions: increasing complexity, multiplying interactions, unprecedented phenomena, acceleration of cycles. What 15 years of low interest rates have not allowed, the current inflationary sequence and central bank rate increases — marked by a dislocation of liquidity — are delivering, reshaping the settings of a securities financing transactions industry which has become vulnerable and outdated.

Injections of liquidity against collateral, which began in 2008-9 have increased massively since 2015 and dramatically in 2020 and 2021. These have been skyrocketing the Eurozone money market into a new era which we are just beginning to understand.

The ECB's asset purchase programmes (traditional PSPP and pandemic emergency PEPP) are responsible for €5 trillion of liquidity injected; the long-term refinancing operations (TLTROs) are responsible for €2 trillion. According to data from the International Capital Markets Association (ICMA), there is currently 60 per cent excess liquidity, representing €4.2 trillion (ICMA January 2023), in the Euro banking system. This excess remains structural since liquidity is always stuck in one bank or another, but always held in an account with the central bank; it is a closed system. Liquidity cannot leave the Eurozone.

By definition this excess liquidity puts pressure on collateral that precisely embodies changes the Euro has gone through during the past 15 years, shaped by an ongoing crisis and unconventional monetary responses. This strain weakens the integrity of market channels, causing “minor” damage (like chaotic end-of-reserve periods, quarter and year-end reporting) and then generating major malfunctions, such as bubbles and frequent panics (2019-20-21-22) followed by emergency interventions driven by the central banks. In a market context where some basic mechanisms are disturbed — generating windfall effects (tiering phenomenon, TLTROs arbitrage) — such liquidity must be invested in the best possible way into “current opportunities”, amplifying and crystallising the market’s disruption. For instance, this may result in massive and unreasonable treasury bill purchases, with repo market rates being pulled down abnormally, disconnecting them from the rest of the money market and reinforcing the continued scarcity of collateral.

Such collateral overconsumption is also rooted in the growing needs of banks and final investors, forced by regulation to post ever more securities (i.e. massive requirements to meet LCR ratio obligations, UMR waves 1-7, and for clearing activities elsewhere). This “inflationary” phenomenon appears all the more powerful as the level of sovereign bonds issuance in Europe — while supported and driven by endemic indebtedness, up 5 per cent in 2023 compared to 2022 for a total amount of €1,200 billion — struggles to meet demand for collateral.

A second issue is that bank intermediation remains weak in the context of this money market dislocation. Bank intermediation is sometimes viewed as a necessary evil that is critical for the participation of buy-side players (insurance companies, pension plans, regulated money-market funds, liability-driven investors, real estate investment trusts, non-financial companies, etc.) — which is sometimes viewed as “the preserve” of banks, but heavily constrains the buy-side. In any case, bank intermediation has been severely impaired since the 2008-9 financial crisis and for good reason. Banks and dealers have reduced the part of the balance sheet allocated to repo business, as regulatory costs have increased sharply. Today, an incredible 40 to 45 basis points is charged to the customer to compensate bank balance sheets in Europe, according to ICMA.

As it stands, balance sheet availability has become a limited and expensive resource, which is complex to increase, especially in times of tension. The regulatory “tsunami” that hit banks in the past 15 years — severely limiting balance sheet capacity — has significantly eroded bank intermediation. This is now a major congestion point. It has become a point of discrimination, due to high prices, and leaves a fallow market in its wake.

The disequilibrium situation created by excess liquidity and the scarcity of high-quality liquid collateral, combined with the weakness of bank intermediation, could have killed off secured funding and the repo market, at least in its current form.

Obviously, flows are not down. Quite the opposite is the case; they are boosted by unconventional monetary policy, prompting an 85 per cent increase in repo market volume from 2015 to 2022. In reality, the days of the current market framework are numbered because it is unable to meet participants’ specific demands born from 15 years of crisis and regulatory proliferation. But it could be so much worse, and conditions are accumulating for a breakout. In a letter dated 25 October 2022, ICMA warned that such a worrying environment could imperil the transmission of monetary policy. Here we are.

Volatility, uncertainty, complexity, ambiguity

The term ‘VUCA’, which is an acronym for volatility, uncertainty, complexity and ambiguity, was coined by the US Military at the end of the Cold War. It characterises a changing and abrupt dynamic that must be constantly adapted to. The world has shifted and a new normal is emerging, even though its outlines are not yet clearly defined and visible. **www.vuca-world.org**

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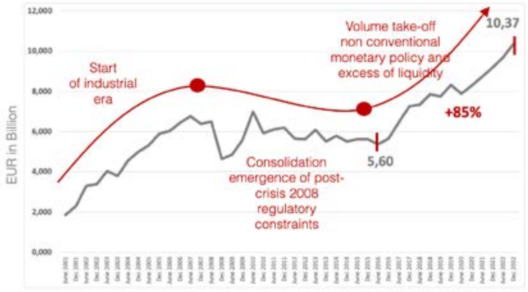


Source ICMA & ERCC Oct. 2022

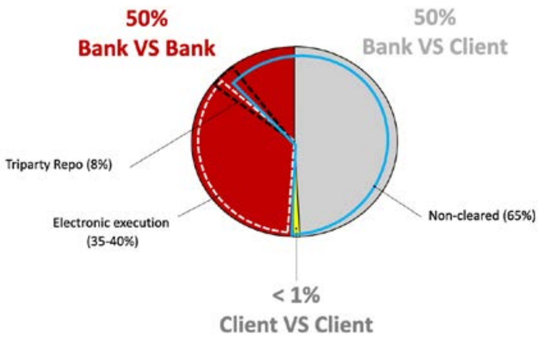
What emerges from this light and dark? An analysis of the European repo market partly answers this question: with a total outstanding of €10.37 trillion, the market is made up of a dealer-to-dealer (D2D) segment, 60 per cent cleared, mainly electronic, offering full STP, based on vanilla flows and poorly triparty. The other half of the market is the dealer-to-client (D2C) segment: a non-cleared, non-electronic, non-triparty market that offers poor STP rates and is not transparent. In other words, we are talking here about a second-hand repo market network which no longer serves the interests of participants and threatens global balance through the contagion effect.

So the market has reached a crossroads just before a major change, offering bank intermediation a chance to completely transform itself. Banks are quietly shifting from the role of counterparty (principal) to that of guarantor (agent). The D2C model might move to a "client-to-client" model: exit the "matched-book" activity, exit the balance sheet impact and risk capital. Banks would now only be responsible

for guaranteeing the credit risk of its clients, giving them the opportunity to deal directly with each other (i.e. via a peer-to peer model). For a few basis points — typically from 5 to 8 bps — banks can support the operational process, that is the liquidation of the collateral, in case of client default. This model can be used in addition to the clearing facility, even though it does not provide a complete solution to the equation. Actually, "sponsored clearing" capability simply replaces one counterparty with another — the clearing house instead of the bank.

Despite the key advantages of netting and low consumption of risk-weighted assets (RWA) — which generate increasing volumes in the US — this cleared model for the buy-side is failing to convince European markets so far, with many believing that it is too costly and complex to implement. In this regard, we have the FICC's Sponsored Clearing offer in the US and those offered by Eurex or LCH in Europe.

The same concept based on the "bank as a guarantor" principle is even more promising as it works well without a clearing house. This allows a much larger and more diverse range of counterparties to access the market, while restoring banks to their original and central role as "risk taker" without being a counterparty — with a profitable business case at stake.



Source CLdF Consulting Dec. 2022

We are talking here about a guaranteed and indemnified repo model demonstrated by some fintechs and by custodians. Actually, international custodians have a significant comparative time-to-market advantage here, as they already have a large number of buy-side customers in their books. This is the case for State Street, for example, which launched its Venturi trading platform at the end of 2022. This may be particularly suitable for transactions between long cash money market funds facing hedge funds, for example, which are structurally liquidity borrowers.

Let's be real: this move has just begun. But we can assume it might expand rapidly. Firstly, because this model can be replicated easily as a puzzle to be put together – there is no specific IP. This means that a wide variety of players will be able to get to grips with this topic, including trading platforms, tri-party agents or even ad hoc partnerships — such as with a fintech, CSD or ICSD, or with an exchange, for instance.

Another benefit is that this will enable a rapid ramp-up as several regulatory “options” can be chosen depending on the typology of service level, the geographical location and the architecture set up. The platform may or may not be regulated and, if it is, different models are possible: a regulated market (RM) managed by a market operator, a multilateral-trading facility (MTF) or an organised-trading facility (OTF), both of which can be operated by a market operator or by an investment service provider.

Nevertheless, the cost of a licence is not neutral and players that are already regulated will have a head start in taking market share. In France, trading platform managers are jointly supervised both by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and the Autorité des Marchés Financiers (AMF) under the EU’s MiFID II. For the buy-side community, the choice of a transactional process fluctuates between the cost of the transaction and credit exposure to the counterparty. There is no holy grail in this respect.

However, benefits of guaranteed and indemnified repo include substantial cost savings for users, price transparency, ease of onboarding, STP execution, and potentially natural connection to DLT technologies, tokenised and durable assets.

On the legal side, this also facilitates use of an all-to-all standard version of the General Master Repurchase Agreement (GMRA), allowing trading parties to sign a single multilateral contract instead of multiple bilateral contracts. In this spirit, the Financial Security Board (FSB) itself has recently encouraged participation of non-banking firms to support the development of all-to-all electronic execution services to facilitate market access for end-investors.

As much as Uber and eBay created huge value for end retail-customers, guaranteed and indemnified peer-to-peer (P2P) repo offers a similar, duplicable and decentralised value proposition for the benefit of buy-side players in the repo space.

It is obvious that we are not just talking here about some technical developments, but rather an idiosyncratic reshaping of the repo market, meaning a decisive step ahead towards a shift in gravity. Buy-side players used to facing banks and dealers so far will face clearing houses more regularly in future and will increasingly deal with each other on a peer-to-peer basis. For banks and dealers, this is not so much a trend of “disintermediation” but a tactical repositioning of the intermediation model.

As a result, both technical ecosystem and trading flow capacities will need to be revisited along the value chain — including electronic trading platforms, order flow management, collateral management and optimisation applications, pre- and post-transaction data providers, and so on.

On top of that, guaranteed and indemnified repo bears the seeds of “credit normalisation” for some buy-side players, involving the first step of their next interaction with central bank monetary policy as is already the case in the US market. This is a highly strategic topic that is still taboo in the Eurozone, but will definitely fuel both the central bank’s current macroeconomic (relating to intervention in the economy, investment guidance) and microeconomic (encouraging innovation and business modernisation) progress.

With all due caution, both the ECB and wider regulators should promote this type of solution which introduces a type of new systemic anchoring for the market. One of the underlying objectives of monetary policy is to maintain government bond rates at a level that preserves solvency of EU governments. As part of the normalisation of its monetary policy (QExit), the ECB’s challenge will be to manage a reduction of its balance sheet without major impact on rates. This will have to be synchronised with an increase in government bonds issued in the market and therefore held in clients’ accounts with depositories and clearing houses. Guaranteed and indemnified repo is becoming one of the important tools in facilitating this strategic shift and, therefore, a tangible promise of renewed liquidity contributing to both market stability and resilience.

The repo market at 2022 year-end

ICMA's Andy Hill, senior director and deputy head of market practice and regulatory policy, Alexander Westphal, director of market practice and regulatory policy, and Zhan Chen, associate director of market practice and regulatory policy, breakdown how repo performed at year-end

Earlier this year, the International Capital Market Association's (ICMA's) European Repo & Collateral Council published its annual review of how the repo market performed at the 2022 year-end.

Year-end repo market pricing and liquidity are generally a focus of market attention, with the euro market proving itself particularly vulnerable to significant dislocations in recent years. The 2022 euro "turn" was being discussed as early as the summer of 2022, with underlying concerns related to the ongoing situation of excess liquidity in the banking system, scarcity in some collateral (notably German Government bonds), seasonal curbs on repo market making capacity —

mainly due to various regulatory reporting requirements — and, a new twist, the European Central Bank (ECB) moving interest rates higher, taking its deposit rate above zero per cent — which is also the cap for certain reserves held at the central bank.

By late September of 2022, the implied repo rate for German collateral over the three-day turn was between ESTR-800 basis points (bps) and ESTR-1,000 bps, prompting many stakeholders to raise concerns publicly, as well as with the ECB.

The report highlights that pricing over year-end improved significantly in the weeks leading up to the date. On 28 December, the spot date for year-end, German collateral — general collateral and specific collateral — averaged around ESTR-350 bps, with some specials trading wider than ESTR-400 bps. French collateral averaged around ESTR-290 bps and Italian collateral around ESTR-195 bps.

Perhaps the biggest surprise was Spanish collateral, which had become trickier to source going into December and which had averaged around ESTR-300 bps over the turn. There are a number of potential factors that helped to contain the extent of the year-end repo market price dislocation, including the October announcement that Deutsche Finanzagentur would make an additional €54 billion of German Government bonds available on repo, across 18 International Securities Identification Numbers (ISINs). In addition, there was an increase in the ECB's borrowing facility against cash from €150 billion to €250 billion and the large repayment of the targeted long-term refinancing operation (TLTRO) on 21 December (€447.5 billion).

In the case of the TLTRO, this did not in itself put much government bond collateral back into the market, but it has helped to reduce the amount of excess liquidity — which has contractedby approximately £1 trillion since September. The fact that positioning for year-end began as early as August also needs to be considered.

The full ERCC report provides more detailed commentary and analysis of the repo market year-end, including the sterling, dollar and yen markets.

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Cleared repo feels boost of monetary normalisation tailwind

Bob Currie speaks to Eurex Repo's Frank Gast, Carsten Hiller and Jonathan Lombardo about the rediscovery of GC Pooling as a liquidity management solution, steps to attract buy-side customers to cleared repo and the organisation's strategic focus for 2023 and beyond

The European monetary policy environment has entered a phase of transition, moving from an extended period of low interest rates and abundant liquidity, fuelled by central bank liquidity support, to a post-pandemic landscape of accelerating inflation, rising interest rates and indication from central banks that they intend to accelerate the unwind of their asset purchase programmes.

European Central Bank (ECB) deputy president Luis de Guindos noted recently that the expansionary fiscal policy and accommodative monetary policy of recent years are now behind us and leading central banks have moved to a phase of "normalisation" — a strategy, in central banker jargon, that aims to shift monetary policy from an expansionary objective, designed to raise the path of inflation, to one designed to cement inflation at the central bank's target level.

For the ECB, like the Bank of England and the Federal Reserve, this transition has been characterised by one of the most aggressive tightening phases in its history. The ECB confirmed at its December 2022 meeting that it will provide further details in February of its plans to reduce its Asset Purchase Programme (APP) holdings. It had already indicated in its autumn statements that it wished to recalibrate the terms of its Targeted Longer-term Refinancing Operations (TLTRO), with banks repaying €296 billion in TLTRO loans in November and €447 billion a month later, with a further €52 billion in TLTRO holdings also maturing in December.

According to Carsten Hiller, head of fixed income sales for Continental Europe for derivatives, funding and financing at Eurex, signals from the ECB from the late spring 2022 that it intended to raise interest rates have provided a stimulus to financing activity through Eurex Repo into H2 2022 and into the early weeks of 2023.

"With indication of proposed interest rate hikes, this has prompted a steepening of the yield curve and triggered the first term trading opportunities in GC Pooling for a number of years," says Hiller. After almost a decade of negative interest rates, the ECB policy rate shifted back into positive territory in September, prompting a pick up in trading activity in GC Pooling, particularly for longer-dated trades.

During Q2 and Q3, Hiller notes that for overnight and short-dated transactions, trading activity continued to be dominated by buy-side firms using Eurex Repo as a cash management tool to invest their surplus liquidity. Moving into Q4, however, Hiller notes a stream of banking participants returning to the GC Pooling market — some of which had been absent for some time, given the ready access to funding through central bank liquidity support programmes. "As central bank normalisation measures have begun to take effect, this provided a stimulus for banks to step up their activity not only for specials trading but also for wider financing and liquidity management purposes", says Hiller.

"While in the late spring and early summer 2022, activity was predominantly at the longer end, as we move into 2023 the majority of trading and volumes in GC Pooling has been in short maturities, from overnight up to one week," adds Hiller. "This is a positive sign, with market participants starting to rediscover GC pooling as a liquidity management product."

With these developments, Eurex Repo has seen powerful growth in its cleared repo markets, with total aggregate cleared volume rising 55 per cent year-on-year across all markets. Average daily traded volume for GC and Special Repo has grown approximately 58 per cent YoY.

For GC Pooling, average daily traded volumes have risen 51 per cent YoY, with tighter liquidity conditions in the eurozone motivating banks to re-examine their funding sources and with previously inactive bank participants returning to the GC Pooling marketplace.

Hiller expects this trend to accelerate during 2023. "We anticipate that activity in Eurex's GC Pooling business will increase significantly, given the reduction in excess liquidity, the potential for further interest rate hikes and the more attractive GC Pooling rates for the market," he says.

Buy-side access

Foremost in its development priorities, Eurex Repo is focused on attracting more buy-side customers into cleared repo, building GC Pooling volumes, and in improving market share in the B2B special and GC repo segments. According to Jonathan Lombardo, Eurex Clearing's head of FIC derivatives and repo sales for Northern Europe, this ambition to bring more buy-side firms into centrally cleared repo is part of Eurex's broader strategy to promote buy-side clearing access for a wider range of instruments, including exchange-traded and OTC derivatives. "This sits at the heart of our focus for 2023 and into 2024," he says. "Use of a CCP adds additional stability, standardisation and risk mitigation that fits well with a buy-side trading model. Beneficial owners are looking for direct access that allows them to have greater control over their clearing activity, to manage their risk in a centrally cleared environment and to have alternative options outside of traditional sponsored products. Eurex's business continues to grow among asset managers, pensions and insurance funds that seek this additional choice and control."

Through ISA Direct and ISA Direct Indemnified, Eurex Clearing aims to combine the benefits of direct clearing access for buy-side firms with the advantages of traditional sponsored access via a clearing member. This establishes a principal-client relationship between the buy-side firm and the CCP, but with a clearing agent performing additional service functions to enhance the clearing solution.

“From a beneficial owner standpoint, the ISA Direct model is now well established and we have several large institutional investors on board, including sizeable Dutch and German pension funds,” says Lombardo. “Our reach has also extended geographically to some large Nordic asset owners.” In many cases, these clients have been trading actively as cash investors to meet their liquidity management requirements. “But as interest rates rise and excess liquidity gradually declines, we expect more activity from this community — for example, also through long interest rate swap positions,” he says.

In turn, this activity has set the stage for the advance of Eurex Repo’s ISA Direct Indemnified, a solution targeted principally at hedge funds, which was technically launched in June 2022 and is now building activity from early adopter clients.

From the perspective of buy-side and banking customers, the ISA Direct Indemnified product has an important role in incubating new trading relationships, says Lombardo. As noted, this provides direct access for buy-side clients to cleared repo. For bank counterparties, this solution provides access to cash providers at significant capital saving by trading via a CCP. By enabling this repo trading activity to take place in a centrally cleared environment, this frees up critical balance sheet that the bank can commit to other business activities.

“In doing so, the objective is to extend cleared repo opportunities out to a new market segment,” says Frank Gast, managing director at Eurex Repo and head of Eurex fixed income, funding and financing sales for Europe. “This provides early mover advantage in a European marketplace where more and more clearing houses are likely to be seeking to extend direct clearing access for buy-side customers.”

The creation of the Eurex Clearing’s Partnership Program in 2018 has been important to the incubation of these direct access solutions targeted at the buy-side. The Partnership Program was created for the OTC interest rate derivatives segment in January 2018 and extended to the repo segment later that year, with the objective of improving service choice and efficiency for Special Repo and GC products and to encourage take up in the D2C repo segment. This provided revenue sharing opportunities to the 10 most active programme participants in the Special Repo and GC segments in Eurex Clearing, along with involvement in Eurex Clearing’s and Eurex Repo’s committee structure and governance. This provides a conduit through which repo trading and clearing customers can make recommendations to the Eurex Clearing and Eurex Repo executive boards through their participation in the Repo Board Advisory Committee.

This involvement from leading sell-side participants has been important in shaping the design of these direct access clearing solutions for buy-side customers, as well as supporting the pilot, testing and release of these solutions as clearing brokers.

Considered together, Gast indicates that this investment in new product solutions is translating into an expanding pipeline of new clients for the repo segment. “Although client expansion for GC Pooling was subdued for a time owing to the ready access to central bank liquidity, Eurex Repo now has a strong pipeline of clients waiting to onboard to the GC Pooling service and to ISA Direct,” says Gast. “Significantly, approximately 50 per cent of these prospect clients are buy-side firms.”

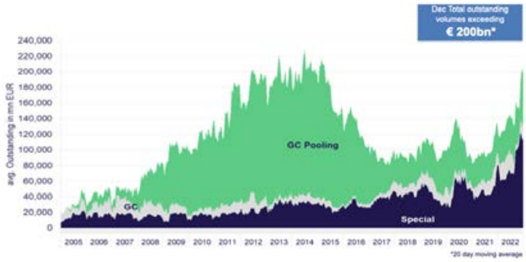
Moreover, while Eurex already has multiple members from the US or Asia connected for derivatives trading and clearing, it has previously only offered repo clearing to European-domiciled entities. This is changing with the launch of the ISA Direct Indemnified clearing model, with Eurex Repo now extending access through this channel for eligible Cayman Island-based entities.

"With indication of proposed interest rate hikes, this has prompted a steepening of the yield curve and triggered the first term trading opportunities in GC Pooling for a number of years"

Carsten Hiller
Head of fixed income sales for Continental Europe for derivatives, funding and financing
Eurex

Additionally, Eurex Repo intends to expand membership to US and Canadian-domiciled banks and broker-dealers in 2023, many of which are already active participants in European fixed income futures and options markets. “Direct access to Eurex for repo will enable these entities to manage their European government bond book more efficiently and to source governments deliverable in our suite of government bond futures,” says Gast.

Fig 1: Eurex cleared repo markets continue to grow as Euro excess liquidity contracts and interest rates rise



GC regeneration

A mark of the regeneration of the GC Pooling market during 2022 is that combined outstanding across Eurex’s Specials Repo and GC financing segments currently stands at close to €200 billion, more than 80 per cent of its peak value of €240 billion attained in 2015 (see fig 1). Significantly, in 2015 more than four-fifths of this notional outstanding was represented by GC financing, with less than 20 per cent coming from specials. In 2023, the picture looks very different, with close to two-thirds of this notional outstanding generated from Specials Repo, with the balance coming from GC.

In recent times, Specials Repo through the Eurex Repo platform has been a major revenue driver, confirms Gast, particularly to support a number of European debt management offices which have supplemented sovereign debt issuance via auctions with financing of government bond issues via Eurex Repo. This includes active financing activities against German government bonds, but also in French and Spanish government bonds for which there has been strong borrower demand.

Additionally, Eurex Repo retains a dominant position in the Supranationals, Sub-sovereigns and Agencies (SSA) segment. “This is a rapidly growing area on our trading platform and a vibrant part of the Next Generation Capital (NGC) markets,” says Gast.

However, the aim is not to force central clearing onto all trading scenarios. “We have sometimes been told by market participants that central clearing is not the solution to all their problems,” says Gast. “But that is not the objective in creating these clearing solutions.”

Rather, he says, central clearing offers a valuable risk management tool, the benefits of multilateral netting and anonymity, and significant improvements in capital efficiency — benefits that clearing customers should be able to access when appropriate. “The benefits of credit risk mitigation, stability and capital efficiency should not be understated, particularly in stress conditions,” adds Lombardo. “But we do not advance central clearing as a universal solution for every trading relationship and transaction.”

Looking back to 2005 when GC Pooling was first introduced, Gast recalls how it received initial feedback from some organisations indicating they did not have a need for a centrally cleared solution for financing GC baskets. With the arrival of the 2008 financial crisis, however, many recognised its value when financing dried up through other channels. “In this context, the GC Pooling market was one of the few funding channels to keep functioning, supported by the risk management benefits, standardisation and anonymity afforded by the CCP,” says Gast. “For some banks, continued access to this GC Pooling liquidity source was essential to their survival.”

ECMS

In early December, the ECB Governing Council took a decision to delay the launch of the Eurosystem Collateral Management System (ECMS), moving the release date back from November 2023 to 8 April 2024. This decision was taken to minimise the impact of a four-month delay in the release of the upgraded TARGET2, the Eurosystem's new real-time gross settlement system, which was moved to 20 October 2022.

Clearstream has been making detailed preparations with clients during 2022 to accommodate the release of ECMS, the Eurosystem's centralised platform for collateral management that will replace the 20 existing collateral management systems run by national central banks to support monetary policy credit operations.

To manage internal preparations with clients, Clearstream completed a large technical migration for GC Pooling at the end of October, migrating more than 140 joint clients of Eurex Repo, Eurex Clearing and Clearstream onto the new account structure and collateral agreements that will support ECMS when it goes live under the revised launch schedule. This new configuration will enable central bank money settlement of GC Pooling collateral baskets via dedicated cash accounts in TARGET2-Securities (T2S), offering real DvP settlement in T2S, rather than conditional DvP previously offered when GC Pooling baskets settled on the T2 platform. Among other benefits, this transition will also support partial settlement, providing a mechanism to boost settlement efficiency and reducing fail rates for collateral settlement via ECMS.

While this complex migration resulted in a slight tail off in GC Pooling volumes in October through to mid-November, Frank Gast explains that this migration and testing programme is now complete for more than 140 clients, confirming their readiness to settle collateral through ECMS when this goes live and their alignment with the new Single Collateral Management Rulebook for Europe (SCORE) that will define the regulatory framework for ECMS operations.

Sustainable finance

In parallel with the strategic priorities highlighted in this article, Deutsche Börse Group continues to work with HQLA^{X} — as major shareholder and Trusted Third Party (TTP) — to support efficient collateral transformation trading, through which collateral can be exchanged on a delivery-versus-delivery basis through tokenised transfer of ownership, without the need to move the underlying securities between the counterparties' custodian accounts.

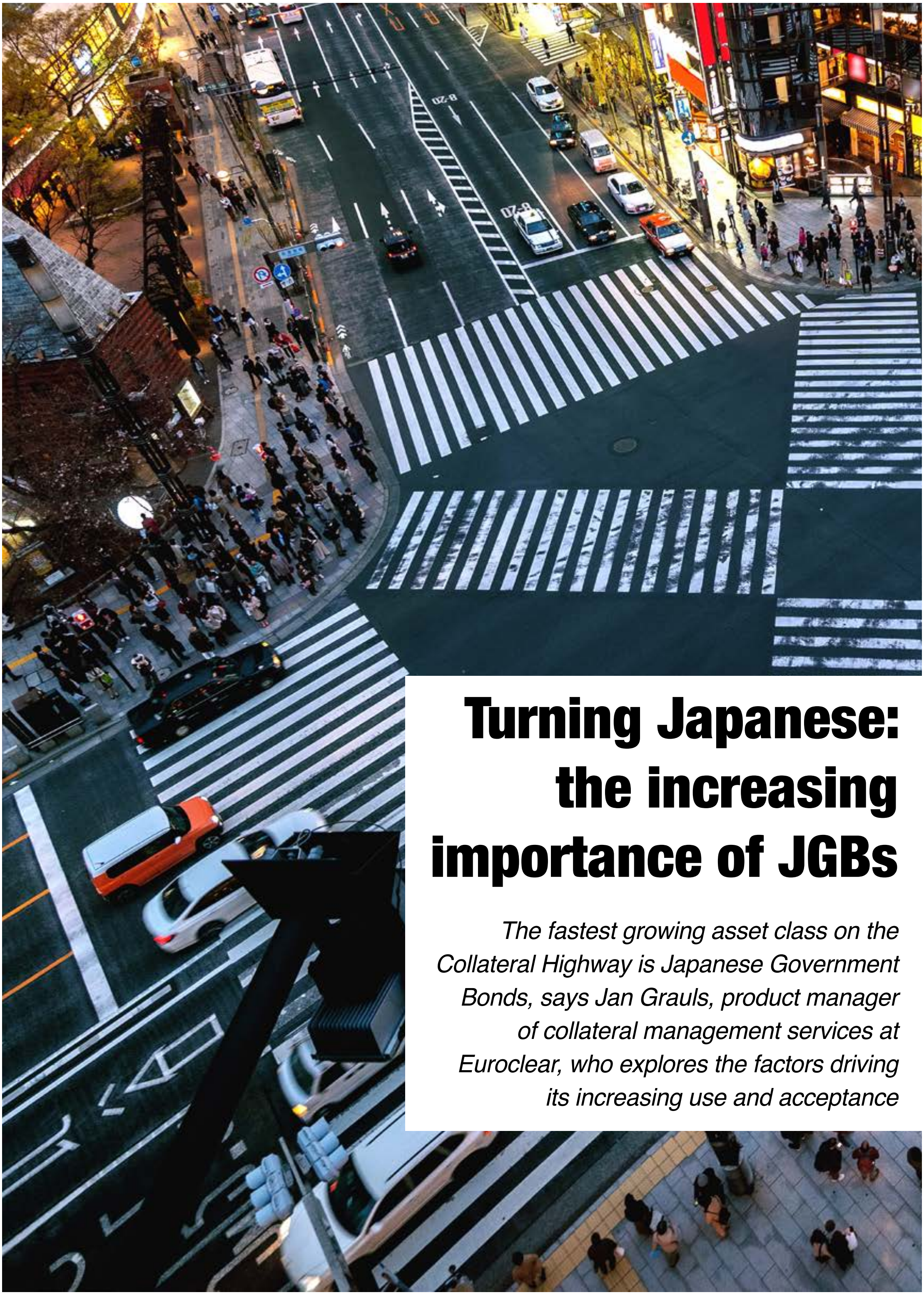
More broadly, Eurex is confident that GC Pooling will play a vital role in banks' financing strategies with the pick up in term repo volumes and short-term financing activity observed in late 2022 and into 2023 and beyond. With the ECB tightening scrutiny of banks' financing sources — its concerns about banks' heavy reliance on TLTRO III funding were foremost in its Supervision Priorities for 2023-25 — it is likely to monitor bank TLTRO exit strategies closely to ensure that banks are able to diversify their funding structures and develop credible multi-year funding plans. "We believe that cleared repo offers unparalleled advantages for balance sheet management through multilateral netting, which can be maximised with client adoption of direct access repo clearing models," says Hiller.

More broadly, there is potential for strong growth in repo transactions which are related to sustainable finance. The green transition to a carbon-neutral world is likely to require large amounts of funding, as confirmed recently by the Climate Bonds Initiative which proposes that annual issuance of close to US$5 trillion in green bonds will be required by 2025 to support this green transition.

To complement this, central banks are expected to adapt their collateral frameworks to require ESG-compliant collateral in credit operations. The ECB is likely to limit the share of pledged assets issued by entities with a high carbon footprint and may impose special conditions on central bank operations, requiring that collateral used to access central bank liquidity must meet required sustainability criteria.

Additionally, under the EU Taxonomy, the introduction of the Green Asset Ratio will require, by 2024 at latest, that banks invest a specified percentage of their assets in green projects and sustainable assets.

"It is in exactly these areas that the repo market can play an active role with regard to sustainable finance and with providing liquidity for primary and secondary markets, as well as supporting diversified access to funding," concludes Gast.



Turning Japanese: the increasing importance of JGBs

The fastest growing asset class on the Collateral Highway is Japanese Government Bonds, says Jan Grauls, product manager of collateral management services at Euroclear, who explores the factors driving its increasing use and acceptance

Japanese Government Bonds (JGBs) are a highly rated, highly liquid asset class. Japan's outstanding debt is twice the size of its economy. Historically, most of that debt has been issued, held and traded domestically. Over the past decade, the perception of the JGB market, as domestically focused, has increased as the Bank of Japan (BOJ) — similar to other central banks around the world — undertook an extensive programme of quantitative easing by the outright purchasing of JGBs.

According to the BOJ's latest Flow of Funds Accounts that were published in December 2022, the central bank owned ¥535.62 trillion (US$3.92 trillion) of JGBs by market value at the end of September. This represented 50.3 per cent of the total JGB issuance of ¥1.07 quadrillion. This is up from 49.6 per cent at the end of June 2022 and an increase from 10 per cent ownership in 2012.

In some specific cases, the BOJ owns 100 per cent of certain individual issues such as the 368th 10-year issue that was sold in October 2022. This is evidence that the BOJ is vigorously following its yield curve control policy to keep the 10-year part of the yield curve from rising too much in the face of the recent rate rises.

However, a different dynamic is emerging which flies in the face of the perception that the JGB market is almost entirely Japanese. Holdings of JGBs by foreign institutions have been steadily increasing over the past decade. According to BOJ data, the proportion of the total JGB market (including FILP bonds and T-bills) held by foreign financial institutions has risen from 5.7 per cent in March 2010 to 14.1 per cent in December 2022. It reached a high of 14.4 per cent in March 2022. In absolute terms, this represents an outright increase in foreign holding of ¥123 trillion (US$957 billion).

There are both macro and micro reasons for this change. On the macro side, a series of fiscal, monetary and structural reforms that were enacted a decade ago by the late Prime Minister Shinzo Abe (called Abenomics), have brought about fundamental changes to the Japanese economy across several vectors.

A key element of the so-called third arrow structural reforms was an intent to increase the internationalisation of Japan's economy. In financial services, this has manifested itself by Japanese financial institutions going out, while foreign financial services firms have come in. As a result of this, JGBs have assumed a greater role not only in capital structures, but also in general financial operations.

At the same, the global need for high quality liquid assets for use as collateral for uncleared and cleared margining has increased dramatically, not least due to the successive waves of Uncleared Margin Rules (UMR) rolling out over the last five years. The use of JGBs as collateral in Euroclear has doubled since 2021 and across the different business lines of repo, securities lending and UMR. JGBs have therefore become the largest sovereign collateral.

Is it a misconception to think that the BOJ has taken the liquidity out of the JGB market?

The BOJ now owns half of all the JGBs, which they have bought to force a large amount of liquidity into the Japanese market in the hope of stimulating consumption. However, recent statistics from the BOJ indicate that despite the growth of the Bank of Japan's holdings, the proportion of foreign-held JGBs has also been increasing.

What intrinsic qualities do JGBs have that make them particularly suitable for use in collateral?

JGBs provide a number of intrinsic qualities that make them particularly suitable for use in collateral. Firstly, the asset class is a sovereign collateral, which means that there is a lot of trust in the bonds. Secondly, JGBs have become a very large market and are very liquid, so counterparties can be quite confident that they can sell the asset if things go wrong. Another advantage that market participants identify is that these bonds are quite cheap in the sense that they are abundant.

Generally, any financial institution that is involved in some way in Japan also tends to hold or have access to a large stock of JGBs. In the past, these institutions might have struggled to find ways to use this stock, but now because JGBs are being used more internationally, there are many more avenues to place them with counterparties.

Why are JGBs being used more internationally?

The increase in the international use of JGBs is due to several factors. Historically, market participants would have been less willing to accept the asset class because, in doing so, they would be accepting something that they are not very familiar with and that is denominated in yen — so there is a currency risk to manage. These were also less prevalent in the Japanese market at that time, which would not ease liquidation if things went wrong.

Euroclear's assessment is that we are seeing greater use of JGBs as collateral. A growing number of international firms have activity in Japan and are comfortable in trading those assets. Vice versa, there is a scaling number of Japanese firms that are finding their way into international activity. These are using their domestic stocks of JGBs and convincing their counterparties to accept them. Euroclear is a platform that is the ideal place for these firms to meet and transact.

Have there been any specific regulatory changes or is this part of a long-term trend?

There has been a long-term trend towards greater JGB use in collateral, but UMR has accelerated that adoption. UMR has prompted a lot of trading relationships that were previously unsecured to become secured by collateral. The majority of these trading relationships are between, for example, Japanese clients and their international trading counterparties. A lot of the collateral that has been exchanged within those relationships is now JGBs. That has certainly contributed to greater interest in using JGBs.

What are the challenges that people might need to be aware of when considering increasing the use of JGBs in their collateral stack?

When increasing the use of JGBs in a firm's collateral stack, this presents an obvious challenge of managing inventory related to operating hours. The Japanese market opens in the middle of the night in Europe and is even more challenging with respect to the US. But even then, Euroclear has the capacity to move JGBs out of and into the domestic Japanese market in size and on the same day. There are some challenges around managing an asset class that is in yen, as there is currency risk involved. Additionally, there can be some quite onerous documentation requirements in the local language.

However, following the clarification of the fiscal treatment of securities financing transactions, Euroclear was able to work with our Japanese depository to significantly reduce the burden related to the required certification to hold JGBs as collateral in Euroclear. This simplification of documentation has been an important catalyst for growth in the use of JGBs on the Collateral Highway and it has unlocked significant pools that were, previously, out of reach.

Euroclear has also made it easier to pledge JGBs by giving legal clarity on the validity of such a pledge. If a firm wants to have a pledge on Japanese collateral, it is not sufficient to just have good documentation with a counterparty. Firms would also need comfort that the pledge complies with Japanese law.

Euroclear worked to set up a structure — and get the necessary legal opinions on that structure — to enable clients to feel comfort that if they were pledging collateral, this pledge would be fully compliant with Japanese law. This further increases liquidity and their foreign usage. JGBs' safety, liquidity and ease of use are three characteristics that make them ideal collateral and why they are so popular on the Collateral Highway.

Jan Grauls
Product manager of collateral management services
Euroclear

JGBs in Euroclear Bank

Before the Bank of Japan began its bond buying programme, it was the Japanese banks that had huge JGB inventories on their balance sheets. At the same time, these banks had substantial foreign currency funding needs, mainly in US dollars. They used cross-currency repos to meet their funding requirements and, in the process, brought JGBs into Euroclear Bank as collateral. This trade still carries on.

Euroclear does not just service Japanese banks. When Japanese institutional investors move into Europe, they are keen to take foreign-owned JGBs as collateral and turn to Euroclear to make the connections for them. These Japanese institutional investors, such as insurance companies, accept JGBs as collateral for non-cleared derivatives margining, but also for collateral swap transactions. This brings even more liquidity and flow into Euroclear Bank. Since there is no domestic triparty platform in Japan, any entity that wants to finance their JGBs must do so in an international environment, which Euroclear provides.

In the last decade, Euroclear Bank's settlement link with the domestic market has further improved while documentation requirements to hold Japanese assets have eased. Euroclear has operated a representative office in Tokyo since 1987 to support Japan-based users of its securities settlement system. In November 2017, Euroclear Bank, the international central securities depository, was granted a licence from Japan's Financial Services Agency (FSA) to establish a foreign bank branch under the Japan Banking Act.

China's repo market: a guide to the present, an eye on the future

Richard Comotto, senior consultant to the International Capital Market Association, speaks to Bob Currie about the release of the China chapter of ICMA's guide to Asian repo markets and his thoughts on how this financing marketplace might develop

The International Capital Market Association (ICMA) has released a guide to China's repo market, representing the fifth chapter in its domestic repo markets in Asia.

This latest chapter provides a detailed introduction to repo market activities on the Chinese mainland, including analysis of the evolution of the market, both its interbank and exchange-traded markets, products and trading activities and market infrastructure, along with a review of the regulatory and legal framework and its ongoing development.

Authored by Richard Comotto, senior consultant to the ICMA's European Repo and Collateral Council and longstanding repo market expert, this contribution follows on the back of domestic repo market guides for Japan, Indonesia, Vietnam and the Philippines which have been released in stages earlier this year.

The latest chapter notes that China has a 30-year history of repo trading, with activity building from informal transactions conducted on local exchanges in the early 1990s to a market today that generates almost US$220 trillion annually in turnover, equivalent to an average daily turnover of US$850 billion or CNY 5.6 trillion.

Given the scale of the repo market in China, Comotto advises that it should be compared with other large repo markets globally, rather than its smaller Asian regional counterparts. The repo market is now the largest fixed income and money market in China, with repo turnover during 2021 of CNY 1,395.4 trillion compared to CNY 214.5 trillion cash trading in bonds and CNY 118.8 trillion in unsecured interbank lending.

While China's domestic repo market has grown substantially from where it was 30 years ago, he suggests that the market may now have entered something of a cul-de-sac in terms of the opportunities it offers for further development. It is not a conventional repo market, he notes, insofar as some of the functions it fulfils would typically be performed through other instruments or trading mechanisms in other jurisdictions. In its current form, it has potential to grow further as a domestic market, but it offers only limited possibilities for integration with the international financial markets and to evolve as a funding channel that is attractive to international participants.

Collateral illiquidity

The guide concludes that, although the repo market is the most efficient and liquid financial market in China, the underlying cash market for securities deployed as collateral is relatively illiquid, with very low turnover, and collateral illiquidity is a systemic risk in this market.

The consequence, says Comotto, is that liquidity-providers (ie collateral takers) will typically avoid term business and limit their financing trades to overnight, in the hope that they will exit the transaction before anything goes wrong.

More specifically, given the lack of liquidity in the underlying cash securities markets, it is difficult to accurately value collateral. Collateral-takers may have broad confidence in the default characteristics of government bonds, municipal bonds and policy bank bonds delivered as collateral in repo transactions — believing that the Chinese government is likely to back its government debt, along with debt issued by government agencies and state-owned enterprises.

However, given the illiquidity of underlying securities markets, it is challenging to manage the mark-to-market and to track the movement in collateral valuation over time. These factors, collectively, represent a significant constraint on the future development of the market.

Although the one-day duration of most repo transactions does mitigate this liquidity risk to investors, it does present a significant funding risk for borrowers. Comotto notes that extensive use of short-term wholesale funding to generate leverage and to manage maturity transformation exposes the repo market to risk of sudden deleveraging.

A further source of systemic risk arises because almost all repo trades are pledged transactions, which are effectively secured loans rather than true repo. In the event of a counterparty default, Comotto notes that such repos would fall within the scope of the statutory insolvency regime and Chinese bankruptcy law, which is little tested and may delay or block access to collateral.

A new Futures and Derivatives Law (FDL) came into effect in China on 1 August 2022 which recognises the enforceability of close-out netting, but only for futures. ISDA has also published a netting opinion for the derivatives market in China that aligned with the enactment of this FDL legislation.

These developments notwithstanding, Comotto remains cautious about how far the market has advanced in terms of the surety available to repo market participants.

"This does not currently offer market participants the assurances that they require from a mature financing market," says Comotto. "This demands that their rights to the collateral are clearly protected, typically through transfer of title, and that is not currently the case in China. Further, in case of counterparty default, it is unclear whether close-out netting could be assured for mutual positions under China's existing insolvency law, notwithstanding progress with derivatives. The regulatory authorities have issued statements indicating that the rights of collateral takers will be protected in case of a counterparty default, but that assurance is untested in practice."

More broadly, pledged repo does little to encourage liquidity in the underlying securities market because cash lenders are not able to re-use pledged collateral, for example to cover short positions.

Trading and post-trade infrastructure

The repo market in China is divided across the Interbank Market and two stock exchanges, the Shanghai Stock Exchange and Shenzhen Stock Exchange. The Interbank Market is a largely wholesale and quasi-OTC market. The exchanges are centralised markets and primarily support retail activity.

SFT asked Richard Comotto how he expects the relative market share of the Interbank Market and stock exchanges to evolve for repo trading in times ahead. The exchanges raised their share of trading turnover to 35 per cent in 2017, before falling back in the face of tighter monetary policy and regulation to just over 20 per cent at the end of 2021 (p 5).

"Looking back five years or so, it seemed likely that the stock exchanges would strengthen their market share of the Chinese repo market on the back of greater interest in credit collateral," explains Comotto. "However, in practice, that trend was not maintained. Shocks to the market, including the challenges presented by the Covid-19 pandemic, have focused repo trade through the longer established and more liquid Interbank Market, which has also been encouraged by central bank participation through this channel."

With the move to "risk off" that has accompanied these shocks, this has slowed growth of repo trading through the stock exchanges. If risk appetite returns, Comotto predicts that the exchanges may again start to encroach on the market share of the Interbank Market. On the other hand, if the Chinese government increases its issuance of government bonds, this is likely to provide additional stimulus to repo trades against government debt collateral through the Interbank Market.

In theory, Comotto notes, the Interbank Market trades on the China Foreign Exchange Trading System (CFETS), which supports trading and data services for repo, cash bonds, foreign exchange and OTC derivatives. In reality, repo market participants commonly trade bilaterally off CFETS, using voice or chat, with CFETS used to report the transaction in keeping with the regulatory obligation in the Chinese market for OTC transactions.

Comotto believes there is small probability that repo trading activity will move substantially from voice to electronic trading on CFETS in the immediate future. To support electronic trading, it is necessary to offer strong liquidity in standardised trading instruments and contracts — and this is currently not available in China's domestic repo market. Credit availability is also a constraint, particularly in the Interbank market.

The financial authorities in many emerging capital markets are keen to demonstrate that they are building an international-standard trading and post-trade infrastructure. However, automatic trading systems operating via a central limit order book cannot operate efficiently without strong trade flow. Comotto notes that in the US and Europe, this has been driven particularly by a large and vibrant repo market supporting short-term financing of government bonds. However, China's domestic market cannot currently deliver this level of repo market liquidity.

At clearing level, two CSDs are currently providing clearing and settlement services for the Interbank Market. China Central Depository and Clearing Corporation (CCDC, or Chinabond) is the designated CSD for government bonds and enterprise bonds and settles approximately 80 per cent of the Interbank Market. The Shanghai Clearing House (SHCH) settles repo against other collateral, typically commercial paper and medium-term notes. Both CSDs offer DvP central bank money settlement, with CeBM payments supported by the PBOC's China National Advanced Payments System. Settlement is typically T+0, although next-day settlement is permitted.

In October 2018, the central bank granted permission for the CDCC and SHCH to offer triparty collateral management services — which went live at SHCH in October 2018 and at CDCC in April 2019 — with potential for custodian banks to offer triparty collateral management services at a later time. However, triparty volumes are currently reported to be “insignificant” since the launch of these services (p 7).

SHCH has also proposed a GC financing facility involving its CCP and its triparty collateral management service (similar to the GCF service in the US, €GCPlus and GC Pooling in the EU and £GC in the UK). However, again, there has been little significant financing activity against GC baskets through this channel.

For repos traded on the exchanges, clearing and settlement takes place on the China Securities Depository and Clearing Corporation (CSDC, or Chinaclear), which supports T+1 settlement against commercial bank money payment. For repo trades executed on the stock exchanges (but not for OTC repos reported after execution to the exchanges), CSDC offers a CCP service to counterparties trading standardised repo against AAA-rated bonds.

This provides guaranteed settlement and anonymity to the counterparties, Comotto notes, but does not align with the CPMI/IOSCO’s Principles for Financial Market Infrastructures. CSDC also provides triparty collateral management services to both exchanges, including automatic collateral allocation.

“This again shows evidence that China’s financial authorities are committed to developing a post-trade infrastructure, including clearing services, that mirror the architecture employed in international capital markets,” says Comotto. “However, I do not anticipate significant take-up of these central clearing services for repo market trades in the near term. Fundamentally, CCPs require volume in standard easily-nettable products. Whereas the US and European markets have electronic platforms supporting high trading volumes in short-term government bond repo, this trade flow does not currently exist in China’s domestic repo marketplace. In the Interbank market, a major share of business is bank-to-customer and therefore unlikely to drive significant volume through the central clearing solution established by SCHC.”

Concluding thoughts

In concluding, Richard Comotto highlights the important role that the Interbank Market has played since its inception in 1997 in supporting the central bank’s move towards an interest rate-based monetary policy framework. This has facilitated the People’s Bank of China’s move from quantitative credit targets and direct interest rate guidance towards a monetary framework guided by daily open market intervention, reserve averaging, standing facilities and strategic policy signals.

Comotto notes that an efficient repo market provides a secure medium for open market operations, while repo rates provide an accurate indicator of the cost of wholesale funding, providing an effective benchmark for pricing risk and short-term financial assets.

China’s desire to be integrated more fully into the international financial system, and to play a more prominent role in this system, is likely to prompt reforms to address some of the obstacles to development identified in this article. “Reforms to China’s bankruptcy law will be an important starting point,” notes Comotto. “If the financial authorities can encourage the development of a title transfer repo, supported by a robust bankruptcy law that protects collateral rights and netting against the insolvency regime, this would be a major step forward.”

From a market structure perspective, he notes that China would benefit from promoting the development of a true dealer-to-dealer market, rather than the predominantly bank-to-customer arrangements that dominate the Interbank Market currently, where a wide range of trading entities are invited to participate.

These will be the key steps in developing a repo market that supports the wider development of China’s financial markets and economy. “The People’s Bank of China is fully aware of the importance of these reforms and progress will be dependent on whether political decision-makers will be willing to follow through with these changes, preparing the foundation for the next phase of China’s repo market development,” concludes Comotto. ■

Regulators see the bigger picture

Nick Moss of MarketAxess discusses the advantage regulators have when assessing data quality and how the industry can adopt a similar approach

The European Securities and Markets Authority's (ESMA's) recent paper on data quality highlights the increasingly data-driven approach being taken by regulators and the extent to which they are using real-time metrics and sharing data across jurisdictions to help identify data quality issues.

The regulatory data sets required under MiFIR, SFTR, EMIR and other G20 regulations are complex. In some cases there can be more than 150 fields in a single regulation, combined with the pressures of hundreds of millions of records reported daily. To fulfil these requirements, data needs to be drawn from multiple different upstream systems within a firm and transformed to meet specific regulatory needs.

To further compound the problem, change is constant within organisations and a small alteration to any of the upstream systems can create big problems once the data has been fed down into the regulatory report.

Advanced techniques are required to effectively analyse and monitor data, and need to be combined with a full reporting data set and smart technologies. Unfortunately, individual firms don't often have these requisite capabilities and this leaves them vulnerable to fines and reputational damage.

The traditional approaches to ensuring regulatory data accuracy are to perform end-to-end reconciliations (a requirement under RTS 22) or periodic sample-based control reviews. On the surface, this control framework appears satisfactory, but when you dig a little deeper there are three key inherent weaknesses.

Context

Without access to the same industry-wide data set as regulators, these controls become too internally focused and omit key market context. Institutions may ask: 'How is everyone else reporting this type of trade?" Or: "Are all my counterparties reporting the same trade timestamp as I am?"

Coverage

By definition, these controls don't cover the whole population of reported trades, meaning, at best, it can take between three to six months to identify an error. At worst, it could be missed altogether.
This can mean a relatively small issue escalates into one that requires a significant amount of back reporting to resolve.

Cost

Traditional data quality reviews are often resource-intensive, requiring significant manual effort or the budget for third-party experts to run. Cost is also often the enemy of coverage. It's important to ask how you can improve your data and proactively highlight potential errors, considering the backdrop of increased scrutiny from regulators, the techniques they are employing to monitor the market and deficiencies in traditional models. In essence: how can you start employing the same techniques your regulator uses?

Having listened carefully to how regulators are using their data sets to monitor accuracy, we realised that we could use our unique industry-wide dataset, powered by our network of more than 950 clients, to apply innovative data techniques to help firms undertake similar checks and address the limitations in existing models.

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Since the early 1990's, ICMA has played a significant role in promoting the interests and activities of the international repo market, and of the product itself. This includes the development of the Global Master Repurchase Agreement (GMRA), which has become the principal master agreement for cross-border repos globally, as well as for many domestic repo markets.

The ICMA European Repo and Collateral Council (ERCC) was established in 1999 as the main representative body for the cross-border repo and collateral market in Europe. The ERCC aims to develop consensus solutions for issues arising in a rapidly evolving marketplace and consolidates and codifies best market practice. Membership of the ERCC is open to ICMA members who are active in repo and associated collateral business in Europe. The ICMA ERCC currently has around 120 members, comprising the majority of firms actively involved in this market. For further details and to get involved please contact ercc@icmagroup.org.

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(1) Based on CRR-CRD4 rules as reported on June 26, 2013, including the Danish compromise - without phase-in.

Figures as at 31 December 2020

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