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¹ Global Investor ISF Survey 2020 – Securities Finance Agency Lending named Most Innovative Lender

Editor's Letter

After an extended period of low interest rates and central bank liquidity support – powered by central bank asset purchase programmes introduced initially after the 2008 financial crisis and ramped up sharply during COVID-19 pandemic — the market is now adjusting to a different orthodoxy characterised by surging inflation, monetary tightening and fears of economic slowdown.

With this, 2022 has heralded a resurgence in volatility as evidenced by a rollercoaster ride in leading global equities indices and the CBOE VIX. This market uncertainty has its foundations in the pandemic, but has been accentuated by the Russia-Ukraine conflict and, on a localised basis, by the effects of the UK government's late September mini budget.

As one contributor notes, there has been widespread debate about what a “new normal” might look like when the pandemic receded. In 2022, economic and monetary conditions are departing significantly from the ‘norms’ witnessed during much of the past decade.

With these challenges comes opportunity, however. In the face of this market uncertainty, our contributors tell us that the right partnerships, the right securities financing agent, and the right trading strategies will be crucial to tap into potential revenue opportunities this volatility presents.

As we noted last year, some of the big picture themes discussed in this annual have been with us for decades – how to mobilise, optimise and allocate collateral efficiently across product silos and geographical location and how to manage the ongoing flow of regulatory initiatives that are reshaping our working environment.

The securities finance world is embracing opportunities to trade electronically and to manage this trade and collateral flow in a front-to-back STP environment. Digitisation features prominently, powered by efforts to standardise operational processes, legal and contractual agreements.

With these developments, practitioners are exploring opportunities to deploy an expanding range of asset types in collateralised transactions. Our contributors predict that blockchains, tokenised assets and smart contracts promise much for the collateral management industry, even if we are unlikely to see cryptoassets used extensively as collateral in these markets in near term.

Rather, this will be a gradual transformation where tokenised equities and bonds, and then digital native securities, are integrated progressively into the collateral mix. As this advances, digital assets and traditional assets are likely to exist alongside each other and to share infrastructure. Solutions providers are working hard to refine their service capability and supporting technology to meet this evolving client need.

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BNY Mellon adds ESG enhancements to its securities finance platform

BNY Mellon has enhanced its securities finance platform to help clients to analyse their agency securities lending programme alongside their sustainability goals.

The announcement comes as stakeholder demands are growing for transparency in connection with ESG commitments.

Delivered through an interactive dashboard, the updated platform allows clients to apply ESG scores based on third-party data across their lendable portfolio and collateral and cash investments. This enables clients to evaluate their alignment with their individual ESG goals.

The new dashboard leverages MSCI ESG Research's ESG Ratings, assigning scores to securities across the three distinct pillars of ESG: environmental, social and governance.

The scores are applied to a client's non-cash collateral and

cash reinvestment, including both outright purchases and repo collateral.

The resulting output allows clients to analyse how their portfolio, the collateral they receive, and the investments they make, aligns with their environmental, social and governance goals and values.

The new capability represents the first in a series of ESG enhancements BNY Mellon plans to make to its platform.

Ina Budh-Raja, EMEA head of securities finance product and strategy and global head of markets ESG at BNY Mellon, says: "Transparency is critical to the evolution of the ESG investing landscape, as well as the management of ESG risks and regulatory compliance. BNY Mellon is committed to providing clients with next-generation solutions and insights designed to help enable alignment with their ESG goals."

Report by BCBS-CPMI-IOSCO analyses margin procedures during Covid market stress

BCBS, IOSCO and CPMI have published an evaluation of margin management practices in the face of uncertainties in financial markets with the onset of the COVID-19 pandemic in March 2020.

The Basel Committee on Banking Supervision (BCBS), the banking supervisory authority, alongside the Committee on Payments and Markets Infrastructure (CPMI) and the International Organization of Securities Commissions (IOSCO), have released their findings in a joint report published today, entitled Review of Margining Practices.

The study forms part of the Financial Stability Board's (FSB's) work programme to improve the resilience of non-bank financial intermediaries and analyses industry feedback provided on a consultation paper released by BCBS, CPMI and IOSCO in October 2020.

Reflecting on margin activity during the spike in market volatility during March-April 2020 and the corresponding dash for cash, the paper finds that initial margin (IM) requirements for centrally cleared markets rose by approximately US\$300 billion during March 2020 relative to the preceding month, with an additional increase in excess collateral of US\$115 billion.

This resulted in an increase in collateral pre-positioned at CCPs



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of more than US\$400 billion, a 40 per cent increase on the average for February.

Variation margin (VM) calls in both cleared and non-cleared markets rose dramatically in March, with central counterparty VM calls rising from around US\$25 billion to hit a peak of US\$140 billion for 9 March 2020.

While CCP VM calls were predominantly end of day, the report highlights a significant rise in intraday VM calls during the high-stress period in March 2020. These were predominantly made according to predefined schedules, with some ad hoc VM calls made on days of particularly high volatility.

The report finds that IM requirements on non-cleared derivatives contracts remained relatively stable during this period of market stress.

Typically, intermediaries indicated in their consultation responses that they were relatively unaffected by changes in margin and made few changes to counterparty margin call procedures, although some reported making adjustments to counterparty credit limits.

On the back of the consultation, BCBS, CPMI and IOSCO have proposed amendments in six core areas and indicate that they will work with the FSB to carry out this work.

They identify a need for increased transparency in centrally cleared markets, particularly in the metrics and disclosure requirements related to procyclicality, model performance and responses to volatility.

This will be accompanied by measures to boost liquidity preparedness for market participants and to re-examine liquidity disclosure requirements.

Respondents highlighted a need to address data gaps in regulatory reporting obligations, particularly through work to identify gaps in regulatory data at the jurisdiction level and to provide a more detailed picture of firms' level of preparedness to meet margin requirements.

Additionally, the paper recommends steps to streamline VM processes in both cleared and non-centrally cleared markets, leaving market participants better equipped to meet any large VM calls that might arise during periods of market stress.

International work is scheduled to evaluate the responsiveness of CCP margin models to volatility — and other types of market stress — and to assess and compare factors that may contribute to procyclicality under different market conditions.

This will be accompanied by parallel efforts to evaluate the responsiveness of non-centrally cleared IM models to market stress and their ability to ensure timely remediation of IM shortfalls.

SEC opens consultation on clearing proposals for US treasury markets

The Securities and Exchange Commission (SEC) has proposed rule amendments that would encourage wider clearing of trades involving US treasury securities

and reinforce risk management practices for clearing entities servicing US treasury markets.

These proposals will require clearing members to submit certain types of secondary market transaction for clearing, including all repo and reverse repo trades collateralised by US treasuries.

This list will also include all buy and sell trades entered into by a clearing member that is an interdealer broker, and buy and sell trades between a clearing member and specified types of counterparty — specifically a government securities broker, a government securities dealer, a registered broker-dealer, a hedge fund or certain types of leveraged account.

Commenting on these amendments, SEC chair Gary Gensler says: “The Securities and Exchange Commission plays a critical role in how the Treasury market functions, including helping to ensure that these markets stay efficient, competitive, and resilient. One aspect of that role is our oversight of clearing houses for Treasury securities.”

While the SEC believes that central clearing plays an important role in risk reduction, it notes that in 2017 only 13 per cent of Treasury cash transactions were centrally cleared.

“Thus, I think there is more work to be done with respect to the amount of Treasury activity that is centrally cleared,” says Gensler. “I think that these rules would reduce risk across a vital part of our capital markets in both normal and stress times.”

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by VERMEG

As the provider of the Eurosystem Collateral Management System (ECMS) platform that will be used by National Central Banks of the Eurozone, VERMEG is happy to introduce EASY Collateral, an end-to-end solution that helps market participants of all sizes meet deadlines, automate their processes and reduce credit and operational risks.

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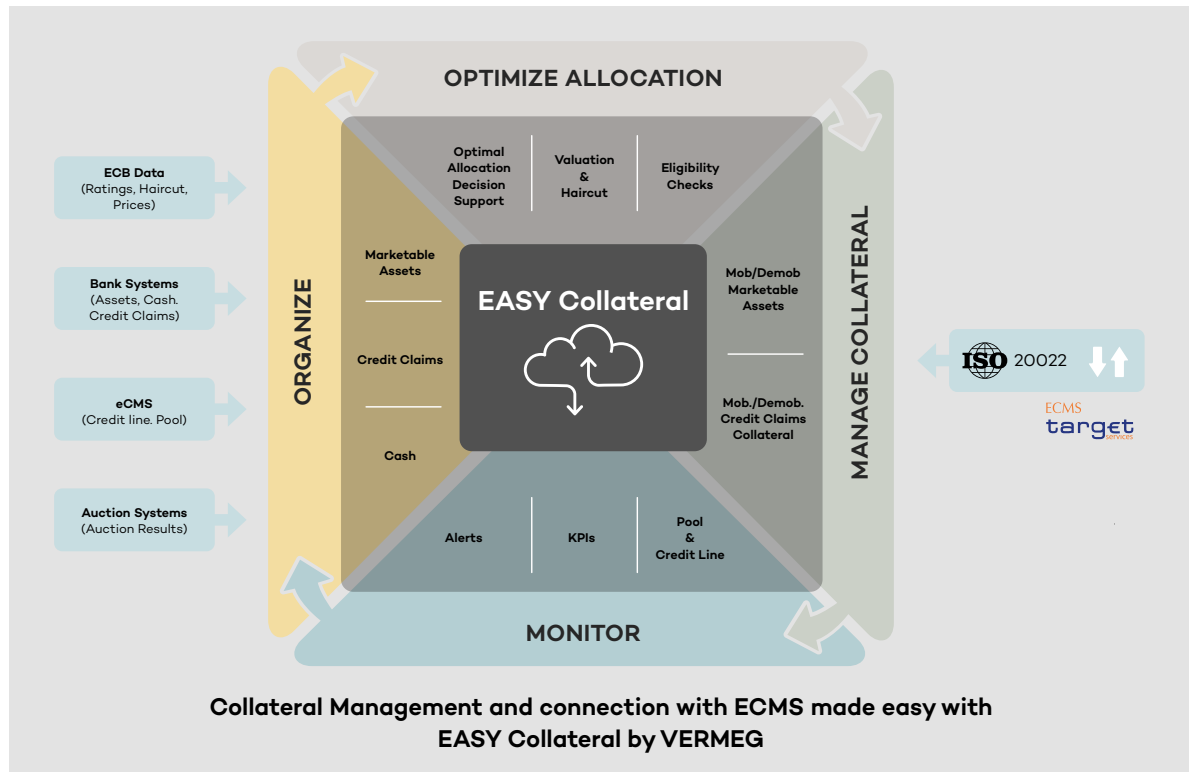
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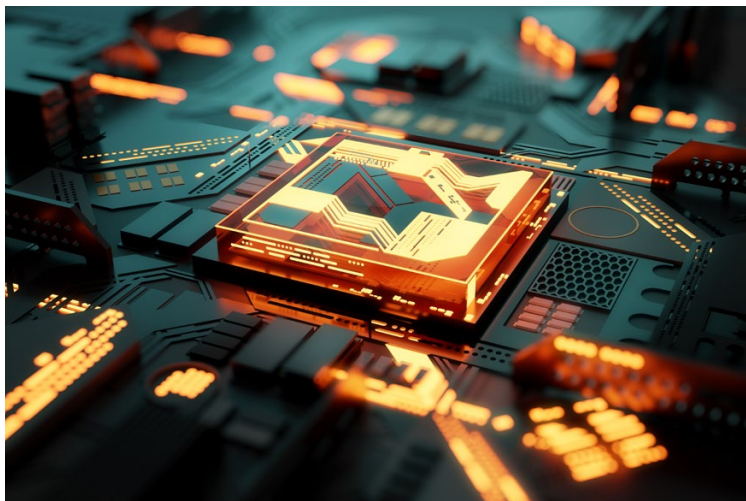
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SIX releases triparty collateral management solution

SIX Group has launched a triparty collateral management (TCM) solution, enabling all requirements for opening, managing and closing collateral exposures to be managed in the Collateral Cockpit service that it has used to manage repo services since June 2020.

With this release, SIX says that it will complement its existing triparty agent solution with enhanced triparty collateral management functions offered through the TCM service.

Nerin Demir, SIX's head of repo and collateral management, says: "With this solution combined with our sophisticated Collateral Cockpit, we provide a higher level of security, control and useability for our clients. In addition, we established the backbone for collateral mobilisation, enabling many new use cases for our

collateral management service and a foundation for future growth."

SIX's head of sales for repo and collateral management, Christian Geiger, adds: "Triparty collateral arrangements are especially important for the Uncleared Margin Rules (UMR). SIX has seen an increasing client demand with the final phase of UMR coming into force this September. To support our clients, SIX offers Initial Margin Triparty Collateral Management as a fully integrated service in its web-based Collateral Cockpit.

"Several clients are already using our user-friendly service that also offers a direct link to the major margin calculation agents and margin transfer utilities, allowing them to leverage existing connections. The service is backed by ISDA-reviewed custodian documentation."

With respect to customer margin, the proposals would permit broker-dealers to include margin on deposit at a clearing agency in the US Treasury market as a debit in the customer reserve formula, subject to specified conditions.

The proposals would also require clearing entities supporting the UST market to collect and calculate margin separately for proprietary (ie "house") and customer transactions.

Further, clearing agencies would also be required to demonstrate that they are taking steps to facilitate access to clearing services, including through sponsored clearing channels for indirect participants.

The SEC has published its proposals for public consultation, requesting that respondents post their feedback on the proposed rules within a 60-day consultation period.

BNY Mellon expand collateral management platform

BNY Mellon has expanded its International Collateral Management platform, adding support for Indonesia to its existing network.

The expansion is part of BNY Mellon's planned growth in the APAC region, with solutions to be developed in Malaysia and Taiwan.

Collateral management supports risk management for secured financing transactions, allowing assets to be used for collateral purposes.

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The development follows BNY Mellon's launch of its new user interface earlier this year, which allows clients to view their total collateral sources and uses, while accessing all solutions in a single ecosystem.

HQLA^x and Wematch announce collaboration to improve collateral mobility

HQLA^x and Wematch have entered into a collaboration agreement to improve collateral mobility in securities finance trading.

This will enable traders using Wematch's trade execution platform that are also customers of HQLA^x to input securities lending indications of interest (Iols) on the Wematch platform, with settlement of the securities lending transaction confirmed on HQLA^x.

This collaboration is currently in its design stage and is likely to go live in Q1 2023.

Wematch co-founder and head of EMEA David Raccat says: "The unlocking of collateral mobility is the direction of travel of the securities finance industry and the contribution of HQLA^x through the delivery-versus-delivery (DvD) model will accelerate this trend. "The partnership with HQLA^x matches our strong focus on operational risk and frictionless workflows and we are convinced our common clients will benefit from this enhanced connectivity."

Guido Stroemer, co-founder and CEO of HQLA^x, says, "We

are proud to collaborate with partners like Wematch to leverage the power of distributed ledger technology (DLT) to accelerate collateral mobility across the global securities finance ecosystem."

This will benefit firms that are currently users of the Wematch execution platform and also customers of HQLA^x, which currently applies to 90 legal entities and roughly 900 traders.

HQLA^x's ownership transfer platform enables users to transfer ownership of securities across multiple collateral pools at precise moments in time using a DLT-based platform.

Wematch's solutions portfolio applies technology advances to traditionally voice-traded securities finance and derivatives markets, optimising matching of Iols for total return swaps, securities lending and repo transactions, along with equity and interest rate derivatives.

Acadia onboards more than 1000 firms under UMR Phase 6

Acadia reports that it has onboarded more than 1000 counterparty groups on to its AcadiaPlus platform falling into scope of Phase 6 of the Initial Margin obligations of the Uncleared Margin Rules (UMR).

The Massachusetts-based derivatives and risk management solutions vendor indicates that close to 900 firms are actively monitoring their regulatory IM exposure through Acadia's IM Threshold Monitor and more than

200 firms are contracted to use its IM Exposure Manager tools for calculating and reconciling their IM exposure, utilising either the ISDA SIMM or schedule methodology.

Acadia predicts that these firms will go live with these solutions during the coming 90 days, with more than 50 of these having moved margin since the 1 September enactment date for UMR Phase 6.

Chris Walsh, Acadia's CEO, says: "Bringing these firms into the Acadia fold and onto our robust AcadiaPlus platform is the result of a year's long effort to work closely with our global clients and their regulators to provide the highest quality infrastructure while minimising costs and complexities across the entire margin, collateral and risk management cycle."

Acadia co-head of business development Stuart Smith says: "We appreciate the opportunity to partner with our UMR clients. We will continue to service clients with their post-trade margin workflow processes and [will] continue our relationships by further investing in areas such as pre-trade analytics, optimisation, agreement management, payments, and data exploration."

According to Acadia, AcadiaPlus is a standard, open communications platform used by the derivatives industry with specialist applications and a third-party partner ecosystem that enables straight-through processing of the entire risk-mitigation lifecycle.

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BNY Mellon and Pirum partner on collateral optimisation platform

BNY Mellon and Pirum have partnered to launch a new collateral optimisation service, ECPOConnect. The platform offers margin, risk management and inventory management, with the goal of improving risk-return outcomes.

ECPOConnect combines BNY Mellon's collateral management service, EPCO, and Pirum's CollateralConnect, an SaaS solution allowing for collateral and inventory management and optimisation.

The platform is customisable, with users able to choose whether to

use existing in-house optimisers or BNY Mellon's ECPO.

Through the service, users can reduce liquidity, exposure and funding costs, and will be able to centralise collateral management across locations and business lines.

The platform offers near- to real-time connectivity, allowing users to meet global obligations, through services including intraday management of cross-product margin requirements and automated mobilisation of inventory.

Phil Morgan, CEO of Pirum, says: "ECPOConnect is an innovative solution offering industry participants a flexible set of optimisation solutions to fit their needs. Combining Pirum's capabilities with ECPO, clients gain immediate benefits through more efficient funding, liquidity and capital management."

Victor O'Laughlen, digital business leader at BNY Mellon, adds: "We have already put this tool to work using real client data, and the results have shown major efficiencies for clients navigating an increasingly-connected marketplace." ■



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What do Web3 and the metaverse have to do with collateral management?

Collateral management and securities finance are not going full web3 just yet, but the train is gathering momentum explains Ted Allen, business development director for FIS Securities Finance and Collateral

The past few years in collateral management have been somewhat transformative. Economic and regulatory imperatives have finally driven the bulk of the market to bring together collateral management and optimisation across OTC and listed derivatives with securities lending and repo. Utilities like Acadia, TriResolve and the ever-growing use of triparty have removed much of the legwork that previously dogged the market. The common domain model will further reduce the amount of post-trade disputes and settlement fails.

The goals have been efficiency gains and cost reduction in which assets are deployed as collateral, minimising balance sheet use and streamlining operations. At FIS, we have long promoted this approach; we brought together our previously fragmented securities lending, repo and cross-product collateral platforms into a single stack and combined it with the technology efficiencies of a cloud native platform. With much of that work complete, attention has now turned to the next big thing. So what do Web3 and the metaverse have to do with collateral management?

Let's start by defining what we mean by Web3 and the metaverse. Web3 is a term used to describe the current evolution of internet use. Web1 refers to the web in its original form where large audiences looked at static pages created by a relatively small number of content creators. Web2 saw the growth of interactivity through user-generated content via social media and other communities. It is a much more interactive environment, but dominated by a few big players. Web3 promises a revolution in the definition of ownership through distributed ledgers or blockchains. In a simple example, contrast Web2 Facebook with a social media platform owned by its users where advertising revenue goes to the users based on their participation. Despite some questionable, ultra-libertarian idealism underpinning some aspects, Web3 projects are starting to take off.

The metaverse generally refers to persistent, immersive, virtual environments built on Web3 technologies that have their own economies. Here people interact with each other and can buy and sell

items. The gaming industry is at the cutting edge of this with its multi-player online games and an evolution may be to make items bought on one game portable to another. This concept is applicable across industries. Blockchains, smart contracts, tokens and cryptocurrencies provide the technical, financial and legal infrastructure behind the metaverse and are applicable whatever the domain.

At our annual FIS Emerald client event earlier this year, we launched a metastore allowing attendees to get hands-on experience with transactions in the metaverse, creating the bridge from physical to digital which includes working with cryptocurrency exchanges and all forms of money movement technology to enable shopping and other transactions. Attendees could purchase both physical items and limited edition non-fungible tokens (NFTs) at the metastore, all powered by FIS solutions.

Decentralised finance

An often-cited benefit of the metaverse is the enablement of decentralised finance, the DeFi model. This contrasts with the traditional finance model where marketplaces or brokers bring buyers and sellers together, but where the post-trade settlement and record keeping are separate. In DeFi, this all happens through the technology in one place and there is no neutral settlement or record-keeping authority to guarantee the change in ownership. Decentralised exchanges are created and instead of a broker or trading venue bringing buyers and sellers together, it is all managed on decentralised applications or dApps. The dApp enables price discovery through algorithms and allows the buyers and sellers to interact directly with each other without need for an intermediary. The trade is agreed and settled end-to-end through smart contracts on a blockchain. The blockchain itself then is a single, immutable golden source of the records.

A further interesting aspect of the DeFi model is the concept of staking. This incentivises users to put their assets into the platform to create liquidity. Stakers are rewarded with more of the tokens that they stake or special tokens native to the decentralised exchange

creating yield or value they can reinvest. This has ballooned for cryptocurrencies into a very fast-growing market and, despite this year's crypto winter, all the major banks have crypto initiatives ongoing. They typically start out with custody, expand to trading and then on to staking.

Crypto lending through DeFi has similar drivers to the securities lending market. Borrowers seek access to the crypto currencies because they have a directional view on the price of the crypto asset or to exploit arbitrage opportunities from price differentials either between exchanges or between crypto spot and futures prices. Lenders see opportunities for yield from the fees on the loans. The trades are structured typically as a crypto versus crypto or versus a stablecoin (which these days should be backed by sufficient liquid traditional assets, i.e. fiat cash or HQLA, such that it retains its peg to a fiat currency under changing interest rates and crypto market conditions).

Alternatively, the crypto currency is used as collateral for a fiat loan in much the same way margin lending works with traditional securities. The difference in the crypto lending models is the size of the haircuts needed to account for the price volatility, the frequency of margin calls and automatic liquidation provisions of the loans in the event of a decline in the value of the crypto collateral to a trigger loan-to-value (LTV) level. We have recently brought an FIS solution to market to manage the collateralisation of these types of crypto-collateralised loans alongside traditional lending activity. This is a business that is still troublesome for traditional, regulated banks to engage in, however, given evolving regulations, particularly in the US, UK and Europe, and the prohibitive capital charges on digital assets proposed by the Bank of International Settlements (BIS) in its latest consultation paper.

'TradFi' world

Whatever your view on crypto, there are some aspects of the model that are beginning to show value in different aspects of the financial industry. Which brings us to the 'TradFi' world of securities finance and collateral. We already see start-up blockchain solutions

from HQLA^x, J.P. Morgan, SWIAT and others where participants can lend, borrow, repo or use as collateral tokenised holdings of traditional bonds and equities. A holding of a traditional security, or indeed cash, is locked up at the custodian and a token representing ownership of those securities is created. These tokens can be transferred between participants in the ecosystem.

These are private, permissioned blockchains where participants are vetted and counterparties are known and not the open, public blockchains in the DeFi crypto world. That is essential in this market because the free-for-all, disintermediated DeFi crypto world comes up against some hefty regulatory roadblocks in securities finance and the intermediaries are performing useful governance functions that cannot be left to smart contracts. The potential gains from these models are cost reductions and settlement certainty because the underlying real-world securities don't move. Time-based, intraday settlement has the potential to reduce borrowing costs and lower funding and capital costs. The golden source of trade and settlement information should remove much of the unnecessary post trade baggage of reconciliations and settlement fails that drive costs and higher barriers to entry.

As these ecosystems develop and gain traction in the market, interoperability between them will become more pressing. The problem of moving tokenised assets from one blockchain environment to another has not yet been solved (it also hasn't for gaming) but there are initiatives on the way.

What is clear is that blockchains, tokenised assets and smart contracts promise much for the collateral management industry even if we will not see crypto used as collateral in these markets anytime soon. It will be a gradual journey of adoption of tokenised traditional equities and bonds and then digital native securities. Digital assets and traditional assets will exist alongside each other and share infrastructure for some time to come and that is the approach we at FIS are taking with our platforms. Collateral management and securities finance are not going full web3 just yet, but the train is rolling down that track. ■

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Do you want to be the only client without the internet?

Richard Glen, solutions architect at HQLA^x, identifies three steps that firms should follow to guide their digital strategies, suggesting that more firms should be embracing a 'can do' approach to distributed ledger technology

New technology has always been a topic at the heart of any bank chief technology officer's (CTO's) agenda. Whether the decision to buy or build is driven by a decision to shore up cyber resilience, to increase core system performance or simply by a requirement to automate all things manual, a CTO's decision is ultimately driven by two critical factors: cost and risk.

In the age of digital transformation, we think that a third variable, the fear of missing out (or FOMO), should be added into the mix. Some market practitioners see distributed ledger technology (DLT) as the future of collaboration and the digital solution for regulated

industries. In that case, why aren't more financial firms embracing a move to digital more swiftly? Surely, now is the time to adopt! Do they seriously want to be the only clients without the internet?

FOMO is clearly a storyline that resonates with business sponsors and C-suite representatives and is an influencing factor in determining how, why and when they embrace new digital technology. So why are firms delaying? Do they not want a seat at the top table? To help financial firms looking to embark on their digital journey, HQLA^x has identified three key steps that every firm should consider to avoid missing out.

The benefits of being first

If you talk to any solutions architect or product owner, the first thing that a client will want to understand from any use case is the total cost of a project versus the benefit that they receive in return. In the case of distributed ledger technology, there are clear benefits for a firm announcing its first DLT use case and ticking the box on their innovation wish list. However, we think that firms that are not natural early adopters need to go beyond first base. They need to be active players and take the early mover opportunity to shape the design features of use cases if they want to pitch the true upside of DLT as part of a firmwide strategy.

There are obvious benefits to DLT that are applicable across many use cases. One is that DLT provides a 'golden source of truth' or a unique record or identifier for a transaction that does not require independent reconciliation or internal database storage. This is valuable to a firm looking to remove internal systems or avoid duplication of efforts across front, middle and back-office functions, but requires forward-looking planning to ensure system integration efforts are aligned.

Alternatively, if your firm is looking to reduce risk across its post-trade workflow, then the opportunity to exchange securities or cash at precise moments in time is a unique benefit of DLT and where capital or liquidity savings can easily be accrued. But do the benefits outweigh the cost of implementation? Absolutely. From an operational perspective, it does not take long to forecast the value of potential long balances that could be lent out on a particular day. However, if your firm has the capability of calculating balances accurately down to the minute, a treasurer can truly optimise collateral and liquidity, and this is beneficial to both bottom-line cost management as well as top-line revenue results.

Choose your use case wisely

Beyond identifying the benefits of DLT in isolation, it is important for firms in a second step to identify the right use case to drive their digital journey and work with providers such as HQLA^x that can help mitigate

some of those early adopter fears. Let's provide some examples to support this notion.

For our agency securities lending product, we elected to start with a one-sided product that allowed our first agent lenders to demonstrate that they can integrate digital workflow into their existing loan management process without disrupting the collateral management workflow of their borrowers. This may not provide the full and immediate benefit of the delivery-versus-delivery (DvD) mechanism to a borrower on day one, but it does provide a stepping stone strategy which suits many firms in terms of a risk management or new business approach.

For other use cases, firms are looking to leverage DLT to drive new revenue streams through the creation of new markets. As early adopters, firms can accelerate organisational learning as well as generate network effects and shape product development proactively. One emerging example that we are seeing at HQLA^x is the demand for intra-day repo. From a solutions creation perspective, this is the panacea. It represents a standalone DvP solution that does not disrupt incumbent activities, facilitates interoperability with other ledgers and potentially acts as a catalyst for other intra-day markets to develop across the securities financing space.

Other firms are considering use cases with HQLA^x that focus exclusively on cost savings. Examples here include firms looking to deploy DLT to consolidate bespoke middleware solutions into a single set of smart contracts to reduce maintenance efforts as well as operational overheads. There are real merits to this if your firm is part of a multi-entity, multi-currency group and if the DLT solution can span fixed income, equity and prime financing business lines.

Going beyond MVP

As any prospective business sponsor will testify, what is essential for all use cases as a third step is that a firm is also able to map out a pathway to scale. What this means is being able to plan and implement all the steps between an initial first live trade, often

referred to as the minimum viable product (MVP), to something that can be scaled to support anticipated future volumes.

This brings us back to the subject of risk. No CTO will endorse the implementation of any new technology without first wanting to prove that it does what it says on the tin. For digital use cases specifically, this is an important point as many firms will endeavour to integrate digital technology into their legacy workflow rather than build a new product exclusively on digital rails. For this reason, most MVP concepts in the DLT space will leverage some manual hand holding for specific aspects of the workflow and for restricted volumes on day one. In fact, this is often mandated as part of a firm's new business approval process and will be conditional on the delivery of the key components that support full end-to-end automation or the removal of any manual touchpoints, ideally in exchange for permissioned smart contract logic, within a specific timeframe.

This is where firms need to play close attention to the key integration touchpoints; in other words, the specific locations where humans interact with technology as well as those endpoints where there is direct tech-to-tech connectivity. Many firms will consider deploying a graphical user interface (GUI) as part of an MVP to mitigate day-one integration risks, but will not want to factor that into longer-term plans. Other firms seek to identify whether API's or other messaging feeds should be included as early as possible in the delivery plan to drive the pathway to scale more effectively. At HQLA^x, we are finding that more and more firms are already assessing the benefits of hosting their own node to support a mature DLT framework in the future. This is certainly an area to monitor when firms start looking to mine some of the data that nodes can make available.

Identifying integration touchpoints also includes assessing operational workflows from internal trade capture and lifecycle management, inventory reconciliation as well as risk and regulatory reporting. The nature of digital technology does not change the nature of the operational workflow per se, but it

potentially bifurcates production processes, including exceptions management, across legacy and digital rails in the short-term for firms. This highlights the requirement for firms to ensure that they can manage exceptions swiftly and efficiently as markets edge closer towards the T+0 world that we know that digital markets are able to support.

Fear of the unknown

Maybe this is where the implementation of DLT is less about FOMO and more about the fear of the unknown. Are firms right to be overly cautious about implementing DLT, or are their plans to introduce digital technology being put on hold because of wider concerns about the future of cryptofinance in general?

Overcaution certainly seems to play a prominent role in determining how firms plan to move forward with their DLT strategies. Partly, this is the result of the negative media that firms will have read about the recent 'crypto winter' and some of the recent bankruptcies in decentralised finance, as well as the fact that anything associated with a distributed ledger seems to automatically be classified as 'high risk'.

In parallel, many firms have been waiting for policymakers to offer more clarity on the treatment of digital assets and digital technology from a regulatory perspective before they consider participating in blockchain technology solutions in earnest and moving forward with their own planning and delivery process.

Having said that, innovation is, by its very nature, inherently associated with risk and we feel that more firms should be embracing a plan to implement DLT with a 'can do' attitude to allay some of their fears. If firms can qualify the benefits of DLT appropriately, identify the right 'early adopter' use case for their firm, and become an active player offering a clear pathway to scale, then the network effect will follow and any fear of missing out will only lead to happy paths. Digital will be the new common denominator and it is important that firms embrace their future proactively. After all, do you really want to be the only client without the internet? ■

Don't mind the gap

Our repo markets bridge liquidity gaps. More than 160 European financial institutions are currently active on our Repo, GC Pooling, HQLA^x and eTriParty markets. They benefit from trading opportunities with fully integrated clearing and settlement.



What 12 months of market volatility means for securities finance

It has been another unprecedented year, and markets are still adjusting to what the current macroeconomic climate means for trading and investment. There has been increased market volatility as a result, but this can also create opportunity, according to Curtis Dutton, global head of trading for securities lending at HSBC

For some time, market participants have talked about what a new normal might look like post-pandemic, but few expected the 'norms' we encounter today. Economic recovery from the effects of COVID-19 has been mixed, in the midst of rising inflation, slow growth, the Russia-Ukraine war, and the resulting global energy price and supply chain issues.

All of this has come after the global financial crisis of 2007 and 2008, when markets experienced very low interest rates, quantitative easing (QE) and loose liquidity. For some portfolio managers and many newcomers to the securities finance industry, the landscape has now shifted significantly from what had been familiar. Interest rates are rising, and more

quantitative tapering (QT) is on the horizon — at least for the time being. What does this mean for financing and collateral markets?

A new era of volatility

The economic effects of COVID-19 were, to some extent, cushioned due to the quick actions from central banks and governments to support the markets. However, 2022 has been the year for resurgence in deep volatility and market uncertainty, as evidenced in the swinging highs and lows of the VIX — the Chicago Board Options Exchange's CBOE Volatility Index, a benchmark measure of the stock market's expectation of volatility based on S&P 500 index options.

This market volatility has its roots in the pandemic, but has been accentuated by the knock-on effect of the Ukraine-Russia war. With rising inflation, monetary tightening, supply chain issues, energy concerns, and a period of 're-globalisation', the long-term macro and microeconomic picture is uncertain, but one thing is clear: volatility in the short-term is here to stay.

Comparing the three years before 2020 to the three years post-pandemic, the VIX index is now 72 per cent higher on a consistent basis than it was pre-pandemic, based on Bloomberg market pricing data sets (VIX) between January 2017 and September 2022. As is typical for the industry as a whole, securities financing markets should be quick and dynamic to adapt.

A 12-month lookback on securities financing

In equity financing markets, funding markets and repo, it has been an unprecedented year. A direct impact of the war between Russia and Ukraine was the suspension of Russian domestic securities settlement, as well as Russian GDR names under the sanctions regime, for international investors. This was compounded by Russian federal law, prohibiting Russian issuers from having their shares traded via ADRs and GDRs. Securities financing markets, for the most part, have stayed robust. However, the knock-on effect has been a cautious approach from market participants to using GDRs, in general, as an asset class for financing and collateral purposes.



Emerging market credit markets have also been affected. In the early part of 2022, yields for emerging market debt significantly rose as liquidity declined. More generally, reduced liquidity in emerging market sovereign debt, a steep short-term interest rate curve, the wind-down of the Corporate Sector Purchase Program (CSPP) in Europe, and the fragility of property company liabilities in Asia-Pacific, has resulted in a demand-supply dynamic that has seen spreads widen. This dynamic has almost doubled securities lending revenue for lenders of credit year-to-date, according to S&P Market Intelligence data. This comes after half a decade of consistent tightening spreads in the asset class.

"Emerging markets are being viewed increasingly favourably within the collateral suite, as collateral providers are looking to diversify their supply, given the fall in developed equity indices globally"

Whereas liquidity in specific credit sectors, such as Eastern Europe, has fallen, this is causing some financing participants to look more closely at new pockets of liquidity and opportunity. Mobilising both dim sum and local currency debt, particularly in APAC, has been a focus area for HSBC's securities lending business and this is likely to remain the case in 2023. Indeed, as market participants adjust and familiarise to this new period of volatility, so too international investors have wanted access to new emerging markets through equity financing. Saudi Arabia, Kuwait, Qatar,

Dubai, Abu Dhabi, Korea and China's Stock Connect are all markets where HSBC has been focusing on growing its securities financing product.

Indeed, emerging markets are being viewed increasingly favourably within the collateral suite, as collateral providers are looking to diversify their supply, given the fall in developed equity indices globally. This need to diversify collateral has increased, due in part to government bond inventories being encumbered by market participants for other purposes such as meeting obligations under Uncleared Margin Rules, as well as borrow demand for shorting through repo markets. Providers of collateral are needing to become increasingly intelligent about its use and how to extend their footprint: emerging markets, ETFs, convertible bonds and cash collateral have all been attracting increased attention — not only as funding opportunities, but also for the very purpose of diversification.

This focus on collateral has given fresh momentum to the integration of front and back office departments of asset managers, which has been a steady trend over the past decade. Increasingly, collateral application is now being considered as part of the portfolio management exercise, with many portfolios now being used purposefully and directly for collateral inventory by beneficial owners. This is clearly having additional impact on the natural supply of HQLA from financing agents.

Additionally, the prominence of quant and momentum strategies at hedge funds creates a high daily volume of demand for equities and bonds in a volatile environment, necessitating that agent lenders familiarise and work with beneficial owners in a way that ensures supply of securities is adding value. In part, this requires enhanced relationships and an aligned approach, and it also requires enhanced automation and technology in the securities financing product.

The rise in ETF revenues in securities financing year-to-date is a clear example of a momentum-driven "beta-strategy". This trend makes it important to offer a fully STP and automated financing solution to provide the speed and efficiency needed to draw out price opportunities for

end users. This has been a continued focus for HSBC, as well as integration across the securities financing supply chain (comprising funding, repo, collateral solutions, along with securities lending and borrowing), with the intention of making the process smoother when matching beneficial owners with end users to capture dynamic opportunities during a time of market volatility.

Reflecting on the latest regulatory developments, the securities financing market is subject to the Securities Financing Transactions Regulation (SFTR) and, now, the new introduction of the Central Securities Depositories Regulation's (CSDR's) Settlement Discipline Regime across the EU. The need to sharpen operational procedures has therefore become increasingly important, with market participants becoming more discerning about settlement efficiency in Europe.

What lies ahead

For collateral agents and securities lenders, the new challenge will be how they differentiate themselves. As difficulty in corporate supply chains and energy prices translates into earnings and into central bank policies, market volatility is likely to continue in the short-to-medium term.

A key lesson from 2022, which is likely to be just as applicable for 2023, is that while volatility can be a headwind, it can also open up new avenues and opportunities for intelligent securities lenders. Dynamic trading strategies, for example, may involve fluctuating or structured demand for collateral and directional interests. Asia and the Middle East also offer potential for securities lenders to generate new revenue streams.

With enhanced volatility, and the need for more sophisticated investment management decisions, partnerships and integration will create an environment for securities financing to evolve further.

ESG investing will continue to be a focus for institutional investors, and, therefore, fund managers will seek out ESG assets, even in conditions of market volatility. There is no standardised framework, as yet, for ESG

securities lending, but the introduction of the EU's Sustainable Finance Disclosure Regulation (SFDR), and other comparable regulation, should help to address this — prompting greater disclosure of the sustainability features of financial products.

"From emerging market possibilities to alternative forms of collateral, to ethical investment, there will be a new perspective on the securities lending market that can provide market participants with a competitive advantage"

Intelligent securities lending in 2023

While inflation may peak and interest rates may stabilise, there is likely to be continued uncertainty around timing and other macroeconomic trends. However, the right securities financing agent, the right partnerships and the right strategy can help find and capture the revenue opportunities that volatility presents.

From emerging market possibilities to alternative forms of collateral, to ethical investment, there will be a new perspective on the securities lending market that can provide market participants with a competitive advantage. A globally diversified outlook will be important — combined with investment and trading strategies that recognise the current market risks, but also the opportunities for growth, in what has arguably become the new normal. ■



David Beatrix

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Initial Margin: is it over?

The quest for efficiency and optimisation does not stop with the final UMR implementation phase, according to BNP Paribas' David Beatrix. For firms with a compliance process in place, careful monitoring is necessary to ensure everything is running properly. For firms that have not yet been impacted, they could be in the future

Initial margin rules for non-cleared derivative transactions have been progressively entering into force since 1 September 2016, released through a phased implementation with an increasing number of market participants subject to their requirements every year.

Phase 6 of the Uncleared Margin Rules was implemented in September 2022 and this has impacted a significant number of firms, including institutional investors. With this last wave now behind us, are we done with initial margin concerns?

Reminder on the initial margin rules

Exchanging initial margin (IM) on non-cleared derivative trades has become an established practice over the years. Now that we are past the final phase, all firms with an Aggregate Average Notional Amount (AANA) of non-centrally cleared derivatives (at consolidated group level) above €8 billion are subject to IM rules. All instruments — even physically settled forex forward and forex swap transactions that are exempted from IM requirements — count for the purpose of calculating the AANA.

Most financial counterparties trading non-cleared derivatives are “in-scope” and exemptions are very limited. As of today, the rules have been transposed in a number of jurisdictions (including the European Union, US, Japan, Australia, Hong Kong, Singapore). In many jurisdictions where the rules have been implemented, the treatment of third-country entities implies that most cross-border transactions entered into with entities incorporated in third-country jurisdictions are in-scope.

The range of non-cleared derivative instruments falling into scope of the regulation — that are subject to collection of IM — is generally consistent across the main jurisdictions in Europe, Asia Pacific and the US. Physically settled forex forwards and swaps are excluded across all jurisdictions.

However, some jurisdictions may have specific exemptions, either on a permanent basis (e.g. equity options and forwards are out of scope in the US) or on a temporary basis (e.g. equity options are exempted in the EU until January 2024).

IM rules have many specificities owing to the method for calculating IM amounts, the principle of bilateral exchange of margin (each party posts and receives at the same time), the possible relief with the €50 million threshold, and custodial segregation aspects. The compliance process is complex and can take from six to nine months on average. To manage these requirements, firms have different options to ensure compliance — whether implementing the rules by their own means, or appointing a service provider that can offer an end-to-end solution.

Staying alert

Although the final phase has passed, vigilance must endure.

For firms with a compliance process already in place, solid monitoring is necessary to ensure everything is running properly. Moreover, the quest for efficiency and optimisation does not stop. As IM exchanges take place and data is recorded, the market will be able to reflect

and develop further efficiencies to ensure a smoother IM compliance process.

Additionally, there are firms that have not yet been impacted, but could be in the future. There are two main things for these firms to consider:

1. their Aggregate Average Notional Amount (AANA) and how to track its evolution. Approaching the €8 billion threshold should instantly trigger consideration of IM requirements and how to respond to them.
2. the relief mechanism linked to the €50 million threshold instituted by the Basel Committee on Banking Standards (BCBS), which we explore in more detail below.

Finally, the rules may change over time. As we observe reviews of other major regulations, we note that public consultations have recently taken place around the IM model validation framework for example. Some updates may arise in the short- to medium-term.

Buying more time

The relief mechanism has been introduced to take into consideration the differing levels of risk represented by different volumes of uncleared OTC derivatives trades. BCBS states:

“The requirements could impose some unnecessary operational costs on smaller entities that pose no significant systemic risk to the system and would not be expected to be bound by the initial margin requirements, in particular, in light of the provided threshold amount of €50 million.” (BCBS, Margin requirements for non-centrally cleared derivatives, April 2020)

As always, the devil is in the detail: this €50 million threshold is the maximum threshold a firm can set at consolidated group level with another trading relationship. For institutions having multiple entities, themselves in trading relationships with several branches of a bank, a significant part of the preparatory work is to map and allocate the appropriate threshold amount to each relationship,

the function of the expected trading activity post-compliance date and the risk profile of the transactions. Finally, for the same relationship, it could also happen that these thresholds have been set in an asymmetric way between the pledger and pledgee directions.

If, for a given trading relationship, the uncleared OTC derivatives portfolio (“in-scope” — that is, having all of its trades executed after compliance date) has its IM amounts under the thresholds (€50 million or lower, depending on the allocation mechanism described previously), it is then exempt from posting IM until it reaches this threshold. Firms falling below the threshold are not expected to have specific documentation, custodial or operational processes related to IM in place. This, however, is only supposed to grant more time for firms to prepare for full IM compliance. Once this threshold is exceeded, firms are expected to have all necessary processes in place and operational.

Relying on the threshold requires precise monitoring. To this end, firms can rely on providers that offer such services. At BNP Paribas, we have developed a threshold monitoring service to accurately monitor that the IM threshold is not breached. This solution gives clients additional time to prepare for full IM compliance and allows them to keep trading even though their IM framework is not fully in place.

We offer threshold monitoring services in two ways:

- via our own IM management system, relying on clients’ portfolio data.
- through Acadia’s IM Threshold Monitoring module, relying on counterparties’ data.

This is offered alongside a full suite of IM services, including IM calculation, exposure management and pledge management via our triparty collateral service.

IM will also remain an area of focus on our side going forward. As a service provider, we continue to look for ways to further improve the quality of IM services for our clients. ■



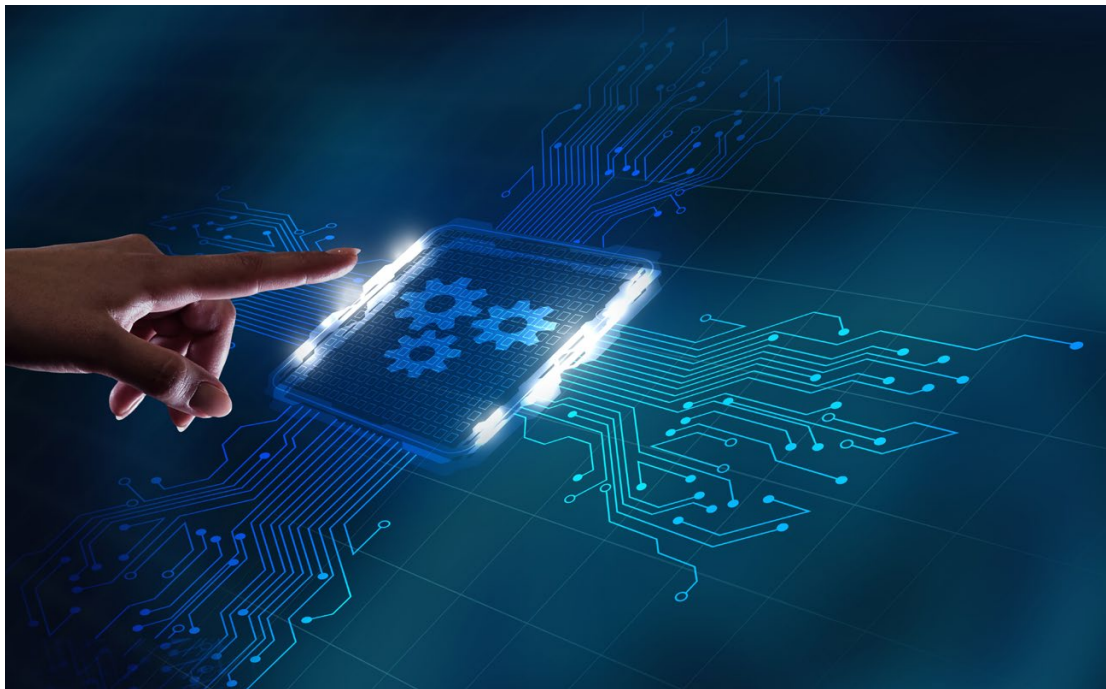
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Reducing the cost of capital through workflow automation

Acadia's chief operating officer Scott Fitzpatrick says a continued focus on automation is required to mitigate the growing funding, liquidity and capital costs of posting collateral and represents a "game changer" for derivatives

As global financial markets have adjusted to the complexities of margining non-cleared OTC derivatives after the onset of Uncleared Margin Rules (UMR), there has been a requirement for industry standardisation and common practices to simplify the calculation and management of Initial Margin (IM). This includes greater technical integration between risk management and collateral management infrastructures within an institution, greater transparency and reconciliation capabilities between institutions, and improved operational mechanisms around the posting and segregation of collateral.

External service providers have long been used in the

derivatives industry. With the implementation of UMR, it was paramount for service providers and vendors to enhance their capabilities, enabling them to support the automation of collateral management — streamlining the process for the modern trading environment — while also helping firms to meet current regulations and stay ahead of any regulatory amendments.

However, there are firms that still rely on inefficient and non-standard processes for collateral management — for example, tactical calculation frameworks, manual reconciliations, reliance on email communication and limited automation to instruct settlement. This translates into a manually intensive

end-to-end process — from calculation of exposure, or margin requirement, through to settlement — which reduces scale, leads to inaccuracies, processing delays and limits any ability to focus on value-add activities for the organisation.

Whether a firm seeks automation by utilising specialised third-parties or through investment in their own infrastructure, it is important to understand that a continued focus on automation is required to mitigate the growing funding, liquidity and capital costs of posting collateral (notably regulatory IM). Improving automation will also create scale and minimise the operational risks associated with handling a greater number or size of margin calls during periods of market volatility and duress. Additionally, when firms are more automated, they can start to look at their whole operation and pivot towards value-add activities. For example, firms which traditionally have been posting cash as collateral for operational simplicity can leverage systems that analyse the optimal collateral to post across a wider range of eligible assets, while also operationalising that decision.

The next game changer for derivatives

Technological advances continue to drive automation and efficiency, as they do in almost every industry. This is true in financial services, where even smaller firms that naturally have less efficiency and scale issues are focusing on improved automation. Taking collateral management as an example, firms that have yet to seek automation now realise that moving away from manual email and spreadsheet processes to manage collateral operations eliminates potential risk and unlocks other benefits.

These other benefits could be viewed as direct cost reductions or, indirectly, as an ability to help talented individuals to focus on more value-added work. Freeing up a talented workforce from unnecessary manual work enables collateral operations to pivot to an exception management framework. This allows collateral operations to focus on risk management (primarily dispute and fail reduction), while also helping traders and portfolio managers to optimise collateral and reduce funding and balance sheet costs.

The paradigm shift

Regulatory reform of the OTC derivatives market — e.g. UMR, the European Market Infrastructure Regulation (EMIR) and the Capital Requirements Directive (CRD) — has increased the complexity of common operational processes, notably collateral management. Some elements of these regulations also led to a marked increase in the amount of margin calls and largely removed the optionality of collateralisation. To cope with this complexity and heavier operational burden, the industry indirectly — or directly depending on perspective — adopted a greater degree of standardisation and a greater willingness to improve transparency.

As an example, the industry adopted a Standard Initial Margin Model (SIMM) framework to calculate IM for trades that fall under the scope of UMR. Furthermore, the industry became much more open to sharing risk sensitivities with counterparties to aid in dispute resolution. These shifts in collateral management allowed for the development and implementation of an industry-wide Common Risk Interchange Format (CRIF), along with the creation of industry tools to reconcile trades, calculate IM, and compare risk parameters or sensitivities. It should be noted that standardisation does not imply simplicity. For this reason, industry tools have widely been adopted by most industry participants.

Though regulation certainly pushed the industry towards greater automation, the benefits are easily visible with relatively recent market events. The pandemic, geopolitical tensions, staffing challenges and global inflation have directly impacted the financial system, leading to greater operational and risk management pressures. Increased automation using industry utilities has allowed the industry to scale and acquire the processing power needed to meet these demands.

In the end, technology will inevitably evolve and adapt to the changing needs of the marketplace. Firms must continue to embrace the types of automated workflows that enable the seamless management of collateral, margin, risk, payments and reporting. Automation mitigates risk, facilitates speed and improves accuracy. These trends will not stop as they continue to unlock value and help firms improve resource allocation. ■



Collateral management as an efficiency enabler

At a time when global financial institutions are dealing with extensive cost pressures and wide-reaching regulations, the need for efficient collateral management solutions has never been greater, says Nerin Demir, head of repo and collateral management at SIX

Difficult macro headwinds, together with surging inflation, are denting margins at financial institutions. To exacerbate this trend, financial institutions — ranging from global custodian banks and brokers to asset managers — are being squeezed on fees, which is adversely affecting revenues. For example, analysis by Casey Quirk, now a part of Deloitte, found that publicly traded asset management companies in North America saw their assets under management (AuM) fall by 12 per cent and revenues by 8 per cent in Q2 2022.

Regulation is also adding to the industry's mounting cost challenges. Almost 15 years after the financial crisis first struck, a number of regulations have been implemented — including the EU's Alternative Investment Fund Managers Directive (AIFMD) and Markets in Financial Instruments Directive II (MiFID II), together with the US Dodd-Frank Act — which have all collectively eroded revenues.

As firms increasingly return to business as usual after the pandemic, regulators are introducing new rules to strengthen operational resilience, which will add further to financial institutions' workloads and costs.

Most recently, financial institutions have been readying themselves for compliance with the sixth and final phase of the Uncleared Margin Rules (UMR) — a set of provisions setting out the margining requirements for transactions between counterparties involving uncleared OTC derivative products.

Phase 6 of UMR applies to any financial institution with an aggregate average notional amount (AANA) above US\$8 billion and will affect more than 1100 firms, mostly asset managers. The introduction of Phase 6 of UMR concludes a multi-year implementation of the UMR obligations, which to date has already impacted global banks, broker-dealers, insurance firms and large asset managers.

Optimising costs through collateral management

With financial institutions facing upwardly moving costs, many are looking for ways to obtain synergies in their operational processes. Increasingly,

collateral management is one of the activities where firms are trying to identify savings and SIX can support this through its cutting edge Collateral Cockpit solution.

The Collateral Cockpit interface joins 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.

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 operations units to avoid errors.

Through third-party triparty collateral management solutions, service providers can select and automatically execute collateral transfers and verify that exposures are being appropriately collateralised via multiple daily mark-to-market checks on the collateral during the lifecycle of the transaction. This ultimately helps financial institutions to reduce their costs and operational risks.

Moreover, it enables firms to monitor their exposures and margin calls in real-time, making it simpler for organisations to calculate their initial margin requirements under the UMR rules.

Augmenting revenues through operational efficiency

As more financial institutions attempt to rationalise their spending amid this testing macro environment, operational savings accumulated through intelligent third-party collateral management systems, such as SIX's Collateral Cockpit, could make a significant difference to their bottom lines.

By eliminating many of the operational pain points synonymous with activities such as collateral management, firms can focus on revenue generation instead of worrying about time-consuming activities like margin call calculations. ■



Collateral management: leverage technology to comply with new market infrastructure

VERMEG's director of collateral management product Wassel Dammak analyses how the ECB's Eurosystem Collateral Management System initiative will impact the collateral space upon its arrival in November 2023

Central banks play an important role in ensuring sufficient liquidity is available to financial markets.

One typical example of how technology can support

innovation in collateral management is the Eurosystem Collateral Management System (ECMS) initiative led by the European Central Bank (ECB). The Eurosystem's 19 individual National Central Bank (NCB) collateral

systems will be replaced by a single harmonised system, the ECMS, in November 2023 and an orderly transition is vital to maintaining access to central bank liquidity facilities thereafter.

Why is collateral important in the process?

The ECB and the 19 Eurozone NCBs that make up the Eurosystem can only provide credit when it is backed up by adequate collateral. Central bank liquidity lines have been increasingly used to provide efficient and cost-effective everyday liquidity in the last decade, not just in times of crisis. As borrowing has increased over time, the range and volume of eligibility collateral has also increased, more than doubling in over a decade. Mobilising global collateral is an increasingly complex process, but vital to efficient liquidity management.

The ECB provides credit only against eligible collateral. Collateral can be in the form of marketable assets such as financial securities and non-marketable assets such as credit claims. The eligibility of assets is assessed by each NCB according to the criteria specified in the Eurosystem Collateral Framework.

During the past 10 years, the ECB collateral framework has been broadened to increase collateral availability for credit institutions and thereby facilitate the provision of increased credit by the Eurosystem. These modifications included, among others, the acceptance of additional credit claims in some euro area countries.

Liquidity is provided by the central bank on a desynchronized basis, with the delivery of collateral taking place first. As a result, the mobilisation of collateral plays a key role for all credit institutions to ensure they have all the tools in place to mobilise and demobilise assets and credit claims.

Infrastructures play a significant role

As the pools of eligible collateral have expanded, infrastructures developed new tools and technologies to enable efficient global collateral management. Triparty services were introduced and have been adopted by the Eurosystem. Innovative solutions have supported

the market's ability to respond quickly in times of crisis and contributed greatly to market stability.

From November 2023, the 19 Eurosystem NCBs will migrate each of their existing collateral management systems to a new harmonised collateral management system: the ECMS. This new single system for managing pools of assets used as collateral in Eurosystem credit operations aims to reduce European fragmentation and boost operational and cost efficiencies.

A continued access to Eurosystem credit facilities will be dependent on a successful transition to ECMS.

Multi-pooling collateral

The ECMS will support multi-pooling functionality which allows counterparties to hold collateral pools in the ECMS in multiple locations, giving counterparts flexibility in their global collateral management. Some non-marketable assets, such as certain credit claims, will be recorded at the NCB level, with ECMS updated to provide an accurate overall position.

VERMEG has been chosen by the ECB to build the future ECMS platform.

Challenges for banks to comply with ECMS

ECMS will primarily impact counterparts of central banks by changing the procedures to mobilise and demobilise collateral and to request changes in credit lines. It will also result in changes to the required content and format of instructions, impose new operational deadlines and introduce a new User Interface, requiring adaptations to IT systems and operational procedures.

This is especially true for the mobilisation of credit claims. Market practice to mobilise credit claims currently varies greatly across different European markets. While having a single process under ECMS will be a big step forward for counterparts and generate substantial operational efficiencies, it will require a significant adaptation in the short term.

In addition, ECMS has chosen ISO 20022 for STP

communication and will reuse the Eurosystem Single Market Infrastructure Gateway (ESMIG). Counterparts wishing to communicate through SWIFT with ECMS will need to adopt ISO 20022 messaging and develop a connection with ESMIG if they do not already have one.

"At a time where roadmaps are under pressure from a variety of regulatory initiatives, the prospect of adjusting to ECMS can feel especially challenging."

While this is more than a year away, the critical nature of access to the central bank and the forced migration in November 2023 mean that preparations should already be underway. Central banks are organising market working groups which provide a valuable forum to clarify aspects of how ECMS will work and to exchange information with others.

Crucially, users of ECMS will need to implement and master the workflows required to deliver collateral and request a credit line before launch. At a time where roadmaps are under pressure from a variety of regulatory initiatives, the prospect of adjusting to ECMS can feel especially challenging.

This is why there are a variety of options that can be used to lighten the burden. For example, foregoing STP communication and resorting to using the ECMS User Interface can be a temporary solution to remove the need to immediately migrate to ISO 20022 and develop a connection with ESMIG. However, relying on manual processes to mobilise collateral at the ECB seems to be a challenge under stressed market conditions.

Digital to support market readiness

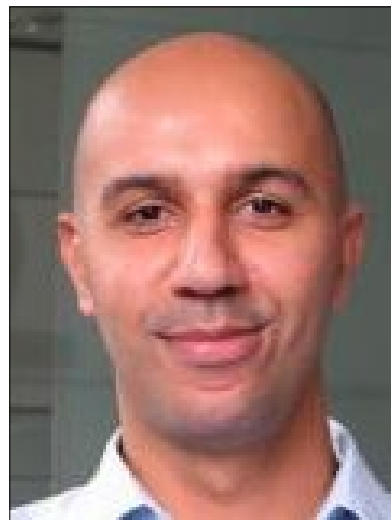
VERMEG has developed a digital application that is easy to implement and is directly connected to ECMS, allowing collateral optimisation of the ECB pool.

EASY Collateral by VERMEG addresses a common need by maintaining a real-time view on both available inventory and collateral deposited in ECMS. It also provides a comprehensive dashboard in which all interactions with ECMS can be monitored. Mobilising and demobilising credit claims and marketable assets can easily be managed through its direct connection to ECMS and its optimisation tool.

With ECMS and EASY Collateral, VERMEG offers a comprehensive infrastructure for collateral management dedicated to central banks, central clearing counterparties (CCPs) and clearing brokers.

With COLLINE, the overall offer is extended to cover financial institutions globally across buy side, sell side and asset servicers. Native connectivity between ECMS, EASY Collateral and COLLINE positions VERMEG's global collateral platform as a comprehensive ecosystem that efficiently manages credit risk and ensures sufficient liquidity is available to financial markets. ■

Wassel Dammak
Director of collateral management product
VERMEG



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UMR Compliance: have you ticked all the boxes?

A change in attitude toward the collateral settlement process is imperative to reduce collateral fails, says Swapnil Deshmukh, senior business analyst for Securities Finance and Collateral Management at Broadridge

The financial crisis in 2008 and the collapse of Lehman Brothers sent shock waves through the financial industry, creating a ripple effect which eventually engulfed the entire financial world. It was evident and inevitable that more robust regulations were required to ensure the stability and good health of financial markets. The G20 economies sought help from the Basel Committee on Banking Supervision (BCBS) and the International Organisation of Securities Commissions (IOSCO) to regulate the over-the-counter (OTC) derivatives industry.

Among various other initiatives, Uncleared Margin Rules (UMR) were developed by BCBS and IOSCO to regulate non-cleared derivative transactions. The aim was to implement stringent measures for the participants in the OTC derivatives market. If one was to pose the question to market participants, "Are you finding it increasingly challenging and difficult to trade derivatives?", the answer has been an emphatic "Yes".

However, sophisticated OTC collateral management platforms and the phased approach

The UMR checklist for most project teams across the industry looked something like the following:

New agreements in scope (based on AANA)	✓
Set up of agreements in collateral systems	✓
Conversation with counterparties about the scope	✓
Discuss best practices with counterparties	✓
Availability of HQLA based on eligibility	✓
Operational set ups etc.	✓

of the UMR regulation has enabled market participants to adapt gradually to the requirements and comply with relative ease. The collateral management teams across derivatives markets have been busy since mid-to-late 2015 in assessing the requirements, determining in which phase their firm will be captured, and ensuring operational readiness by allocating substantial resources with an aim to seamlessly deliver a solution to comply with regulation.

Most of the resources available were directed towards the elements mentioned in the table above. However, the majority of industry participants did not allocate adequate resources and importance to the timely settlement of collateral. Considering that the main goal of collateral management is to ensure that counterparty default risk is mitigated, settlement of the agreed collateral should be the most fundamental task of any collateral management department. Over the years, collateral settlement fails have been viewed as an operational nuisance and have suffered from a laissez-faire attitude. Historically, a typical day in a collateral management department looked like this:

- Run end-of-day process
- System checks to ensure that valuation date for all OTC derivative trades is the previous business day
- Issuing in-the-money margin calls (manually or automated via Acadia)
- Check if instructions for margin calls booked on the previous day have been released to the custodians
- Agreeing to margin calls issued by the counterparties
- Check and resolve if there are any breaks (disputes management)
- Check for collateral settlement fails (margin calls booked on the previous day)

The fact that checking collateral settlement fails was, and to some extent still is, at the bottom of this list is quite concerning. Over the years, industry participants have discussed and debated how best to ensure appropriate regulations are applied to the derivatives

industry. However, not much attention has been paid to ensure that the collateral exchanged between two parties has settled in the market.

Industry participants generally exchange both cash and non-cash (mostly bonds) collateral to cover exposure for an OTC derivative agreement. Most buy-side firms are risk averse and do not exercise their right to rehypothecate, keeping the received collateral ringfenced. Consequently, one would expect a robust fails remediation process. These firms generally manage derivatives exposure on behalf of their clients and an increase in collateral fails amounts to failure in risk management services. The sell-side firms have been more welcoming to the idea of rehypothecation and manage their inventory as per in-house optimisation processes.

A cash collateral fail for a sell-side firm means uncollateralised exposure, which is of grave concern on its own. However, a non-cash collateral fail not only means uncollateralised exposure, but also, most likely, breaks the chain of collateral exchange. For instance, if the rehypothecated collateral is not received back in time, the option for the party involved is to either use securities from its own inventory or, in a worst-case scenario, to borrow it from the market. In either of the cases, there is additional cost to the trading books along with the already existing operational costs.

The introduction of UMR regulations and development of sophisticated OTC collateral management systems have moved in conjunction with each other for the past five or six years. The new and sophisticated OTC collateral management systems have ensured that the core margin call activities (issuing or agreeing margin calls) are a lot less time consuming compared with 5 to 10 years ago. For example, most industry participants use TriResolve for reconciliations of OTC derivatives trades, making the whole dispute resolution process quite seamless.

However, as an industry there has not been sufficient effort to address the issue of collateral fails. Ideally, there should be a zero-tolerance policy towards

collateral settlement fails, but with the increase in margin call volumes under the UMR regime, some organisations have had to direct resources towards recruitment, driving the operational costs up and away from appropriately and decisively addressing collateral fails.

The International Swaps and Derivatives Association (ISDA) margin survey provides margin and collateral fails data for 2017 to 2021 in the table below. If one was to assume that, on average, 5 per cent of collateral exchanged results in fails, it is worth taking note of the implications and the cost of uncollateralised exposure in the derivatives industry.

to fundamental issues such as lack of infrastructure, limited resources or an increase in the volume of margin calls, for example. However, on the majority of occasions, collateral fails are a result of suboptimal processes for effective collateral settlement monitoring.

It is safe to infer that collateral settlement fails increase costs for an organisation, disturb market stability, they could cause reputational damage and, in the worst of all the cases, they raise questions about the effective management of counterparty risk. Even though BCBS and IOSCO have implemented UMR and have ensured that the majority of firms trading derivatives adhere to these rules, it is the responsibility of each organisation to ensure that they are fully compliant and genuinely fully collateralised.

Data in USD billions					
Margin and Collateral Fails	2017	2018	2019	2020	2021
Initial Margin exchanged	130.60	162.70	183.70	217.80	304.10
Variation Margin exchanged	1,525.40	1,442.50	944.70	1,300.00	1,000.00
Initial Margin Collateral Fails (5%)	6.53	8.14	9.19	10.89	15.21
Variation Margin Collateral Fails (5%)	76.27	72.13	47.24	65.00	50.00

It is quite evident that, even taking a conservative approach of 5 per cent for collateral fails, the uncollateralised exposure and the associated operational cost to industry participants is enormous. A detailed empirical analysis performed by PwC and the Depository Trust & Clearing Corporation (DTCC) prior to the start of UMR Phase 1 estimated this to be around 10 per cent by the time Phases 5 and 6 were implemented.

The question that regulators, government institutions, industry participants and their customers need to ask is, what does UMR compliance mean and what does “fully collateralised” mean? Does this merely mean that a financial institution is processing margin variation and initial margin calls daily, or that it is fully cognizant of how much of margin (IM and VM) exchanged has settled on the agreed value date?

There is a fair degree of consensus among industry participants that collateral settlement fails could be due

It is imperative that there is a change in attitude from industry participants towards the collateral settlement process and the first step is to have a proactive approach to ensure that all collateral is settled in a timely manner. A platform that fully incorporates and integrates all aspects of collateral management, along with performing post-trade activities, is another important step that will help firms to reduce collateral fails.

Broadridge is investing heavily in providing such a solution for both cleared and non-cleared derivatives collateral management. Broadridge’s SFCM Collateral Management Module and the associated Asset Selection Module (ASM) has real time connectivity to electronic messaging services like Acadia, reconciliation platforms like TriResolve and all major custodians. An “everything under one roof” solution can help a collateral management team in ticking all the boxes, becoming more efficient and achieving full and real compliance with the regulation. ■



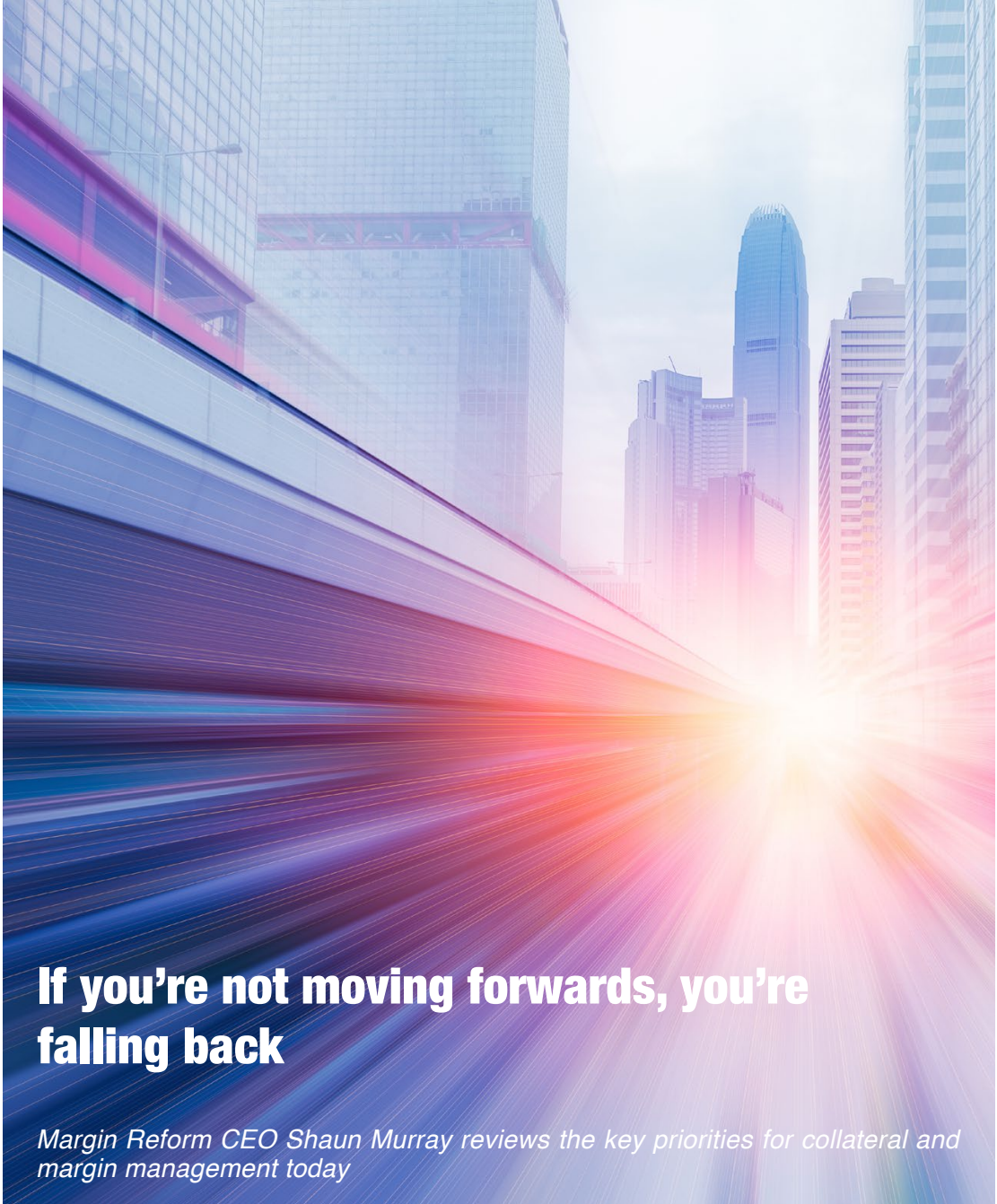
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If you're not moving forwards, you're falling back

Margin Reform CEO Shaun Murray reviews the key priorities for collateral and margin management today

As the Uncleared Margin Rules (UMR) phase-in comes to a gradual conclusion and firms tie up loose ends on documentation and shift from project oversight to business as usual, what is next for collateral and margin management across the industry? There is no argument that all firms trading derivatives have had their operating environments impacted by the changes in collateral management driven by regulation.

At Margin Reform, we think the market is at an inflexion point. At this juncture, we expect individual firms to choose different paths regarding collateral and margin management and how they approach the pre- and post-trade environments in which they operate.

Strategic alignment

Firms will look at this from the perspective of their own business and current operating model, which will be determined by the organisation's size, complexity and efficiency. Looking at your internal environment in isolation is never a recipe that leads to a successful and smooth strategy in the long term. It is necessary to review external factors such as market best practice and industry learnings to determine whether you should invest in new technology, design new or adapt existing processes, and potentially invest in the people who can bring about the required operational changes. Margin Reform considers the following areas to be key priorities:

1. The competitive advantage of knowledge

People are a firm's most important asset and the need for increased resources will continue to intensify. Approaches to collateral management will need to adapt from a reactive, fragmented, siloed function to one of strategic enablers with in-house expertise to manage the complexities of the evolving landscape. New hires should be offered the opportunity to enhance and consolidate their collateral understanding. The collateral strategy should ensure that everyone — from graduates and technologists to the board — upskill and develop a

fundamental understanding of collateral and margin to make critical strategic gains.

2. Data management

Data continues to be front and centre of markets. Everyone is interested. Incomplete or inaccurate data affects trading, risk and operations. Future-proofing legal data as a digitised golden source (smart contracts) has never been more critical. Tokenisation and digitisation generally enable first movers to consider more sophisticated and efficient collateral management. This will increase collateral velocity (rehypothecation), enhance optimisation routines and liquidity management through greater visibility of assets, and reduce friction on settlements and drag on profit and loss (P&L).

3. Impact of Asian regulation

In August, China passed the law for the close-out netting of OTC derivatives, which will mean significant change for the derivatives market following a seismic effort by lawmakers, the International Swaps and Derivatives Association (ISDA) and market practitioners. As the dust settles, firms will be working through many challenges, such as the impact on legal documentation, derivatives pricing, capital and balance sheet management. Understanding external factors such as regulatory complexity and custodian agents will significantly impact collateral, margin and settlements. UMR regulation has recently been published by the Reserve Bank of India (RBI), adding complexity to the legal documentation requirements for onshore margining.

Change before you have to

Innovation, knowledge, strategy and “moving forwards” always comes at a cost. The decision-making process can be challenging against competing priorities within financial markets. Current volatile markets, global inflation and an increasing interest rate environment make collateral and margin management essential levers for firms to manage costs, liquidity and the balance sheet. ■



Triparty expansion for buy-side firms: a seat at the table

As the market and capabilities of triparty agents evolve, triparty connectivity for initial margin has become a stepping stone for collateral management and securities financing activity, according to Sagar Patel, executive director of product management and collateral services at J.P. Morgan

Many more buy-side firms came into scope for the final phase of the Uncleared Margin Rules (UMR) which went live in September 2022.

For the majority of buy-side firms, there is a heavy reliance on a combination of custodians, collateral managers and fintechs to provide an end-to-end service to support their initial margin (IM) framework. Many custodians and collateral agents have developed holistic solutions that cross business lines internally and with third-party fintechs. These solutions surround the triparty operating model and include calculating IM, threshold monitoring and sourcing eligible collateral, to name a few.

A number of buy-side institutions of all sizes — which include pensions, hedge funds and insurance companies — are using a triparty agent as a collateral provider for the first time. There is much more connectivity involved as a collateral provider, when compared with a simple collateral receiver. Although these firms acknowledge the benefits of triparty, this, historically, has not been a priority to affect their models.

Over the years, J.P. Morgan has focused on expanding triparty functionality to serve more of our clients' business by combining triparty functionality with bilateral settlement models, adding on supplementary services and widening the types of collateral receivers on the platform.

Peer-to-peer

If more buy-side firms use triparty as collateral providers, could this help to drive more peer-to-peer activity? Triparty programmes give participants a standardised and efficient operating model and a highly adopted counterparty legal framework. In addition, they are versatile and are able to support various transaction types. There are several considerations for peer-to-peer structures, where being operationally capable and having efficient models to interface with counterparties is key.

A triparty's value proposition addresses those types of challenges, as the collateral provider pools all their assets into a single location (ie the "longbox") and the triparty agent manages the posting of collateral to and from counterparties using an algorithm. The parties use

a shared set of features and operating workflows on the platform, which replaces the need for any bespoke or cumbersome processes unique to specific transaction types or counterparties. The benefits of peer-to-peer are well-known, including diversification of counterparties, increased distribution and reduction of volatility in balances at quarter or year ends. Triparty can positively contribute to achieving these objectives.

Holistic collateral management

Separately, many buy-side firms have been self-managing all collateral processes including variation margin — where they do not use any collateral manager or triparty agent. This was also the case for several of the firms in the earlier phases of UMR, and the new requirement to post IM has been a catalyst for these firms to review their collateral models holistically. For example, a number of buy-side firms are dipping their toes in outsourcing their IM processing with triparty and are looking to use the same collateral manager to support their variation margin. There are various tools and functionalities offered by collateral managers, the market has realised this is a good opportunity to streamline and reduce operational risk by leveraging scale and expertise rather than managing in-house. By utilising these services more holistically, the buy-side firms can be relieved of the operational burden of managing day-to-day collateral processing and focus more on strategic initiatives.

Stepping stone

An increasing number of buy-side firms are exploring creative end-to-end solutions to support their IM requirements. We see this as an opportunity for them to address other potential challenges using these services. Both the market and the capabilities of triparty agents have evolved, making triparty connectivity for IM a stepping stone for other types of collateral management and securities financing activity. Currently, the sell side are the primary collateral providers on triparty and have had a strong influence on new developments and triparty platform roadmaps. As the makeup of the collateral provider market segments on triparty continues to evolve and the buy side becomes more prominent in the market, they will naturally have a seat at the table. ■



Seizing the challenge of modernisation

Collateral is under pressure in the current market, but technology is primed to resolve this challenge, says EquiLend associate director for post-trade solutions Gabi Mantle

In February 2022, as the Central Securities Depositories Regulation (CSDR) washed in, the regulator's enthusiasm for the project was clear. Borrowing and returns rose significantly, indicating that, regardless of preparation, there was even more demand for intra-day liquidity — with the pace of change challenging easy comfort with the familiar. Uncertainty has remained around the possibility of achieving perfect settlement — and eliminating late matching or settlement fails — and this has fuelled stronger demand for cover to address settlement inefficiencies. This dependency on same-day cover reinforces the need for collateral to be moved around quickly and efficiently.

The securities finance industry's inability to adhere to 100 per cent settlement rates originates largely from dual centres of concern: the complex nature of mobilising collateral, and conflicting settlement schedules across global market participants — free of payment (FoP) and delivery-versus-payment (DvP) for example. The potential threat of latency in the trade lifecycle, adding CSDR penalties to the bottom line, means margin is at stake. The bottom line is that the risk needs to pay off.

Aside from inflexibilities in current market structures designed to facilitate the transfer of collateral, the difficulties which threaten same-day settlement invite greater risk by putting a strain on available collateral. If collateral is not readily available, same-day borrows to facilitate intra-day liquidity become impossible. In responding to clients that need to facilitate same-day cover, free up collateral and increase settlement efficiency, our recent offerings — such as Settlement Monitor and enhanced Tri-Party Connectivity via EquiLend Exposure — have delivered greater efficiency, while also facilitating CSDR compliance for clients.

Collateral is key to maintaining intra-day liquidity. Without collateral, buy-side firms will not release their loans, which are all important to preventing hefty CSDR penalties. Sell-side firms need to be able to source the right collateral at the right time. Inventory management becomes ever more pivotal in maintaining settlement efficiencies, giving the collateral providers better visibility and control in mobilising collateral positions. Coupled with technology that facilitates efficient

collateral deployment and margin coverage, collateral can be moved within tight market settlement deadlines.

To discourage market participants from shying away from doing business, cross-provider post-trade and collateral service providers are well placed to reduce settlement risk and to speed up the settlement process by helping to automate manual, time-consuming processes — such as calling in and booking of returns, as well as collateral agreement. In-house investment, which does not take in the bigger picture regarding how the industry is changing, invites greater risk by simply delivering a refreshed version of the current system. The real benefit will be a vision of the future where custodians manage a central digital ledger to enable instant transfer of collateral, heralding the removal of settlement windows across the global landscape. EquiLend recently announced its 1Source initiative, designed to eradicate reconciliations using distributed ledger technology. Our decision to focus on this issue derives from the findings of a working group of industry leading firms that share the same concerns in this area.

The sector is at a tipping point. Regulators are pushing change into reality, with service providers and fintech companies providing the tools. Even those forward-thinking firms that are investing in their own technology solutions risk isolating themselves from the future of the industry where interconnectivity will be king. It is a drumbeat we have long marched to.

The technology possibilities for the financial sector are vast, and the junior talent entering the sector further drives an expectation for high-level technology and operations which run with ever greater speed and efficiency. A patchwork of legacy systems, and attachment to those ways of working, delay but do not hold back positive change. CSDR is one of many regulatory initiatives that we, as an industry, must respond to. There are already more coming down the line, including 10c-1. Our choice at EquiLend to invest in supporting future initiatives with new technology, such as so-called blockchain or digital ledger with 1Source, ensures we can continue to offer the promise of reduced risk and greater efficiencies across the board. There is no risk in modernising. However, there is significantly greater risk in remaining with the status quo. ■



To optimise, mobilise and connect: the keys to growth in collateral management

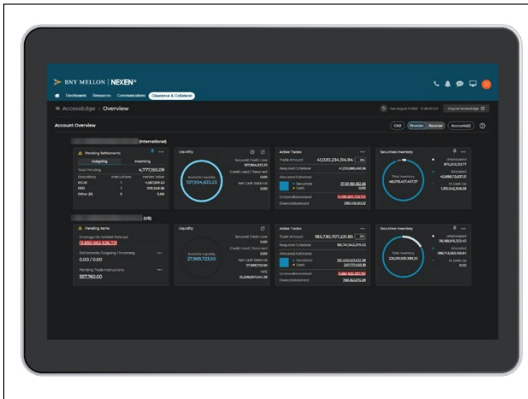
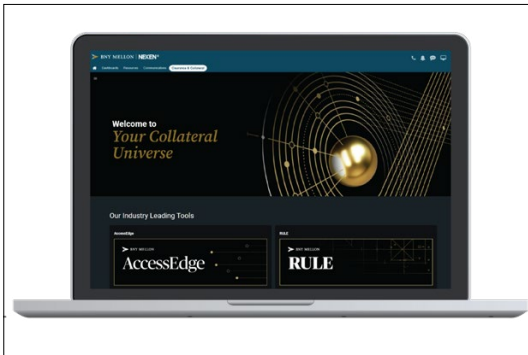
Eric Badger, managing director and global head of client relationships, Clearance and Collateral Management at BNY Mellon, explains how the firm is leveraging its global scale, real-time data capabilities and a state-of-the-art platform to meet client demands

BNY Mellon continues to invest in its collateral management platform, enabling clients to optimise, mobilise and connect collateral against trading liabilities around the world. A key differentiator of our collateral management offering is our global scale and the several thousand clients that leverage our network. We continue to expand our collateral management network globally

— including traditional and alternative asset managers, sovereign wealth managers and insurance companies. BNY Mellon has added a third data centre dedicated to this business, further strengthening its resilience and accelerating the firm's technology transformation. This scale, diversity and resiliency enables clients to operate in the most optimal and efficient way possible.

User experience

We continue to improve the way clients access BNY Mellon's collateral management capabilities through our user interface and APIs. We created a new, single point-of-entry into the collateral platform where you can access market-leading capabilities in a state-of-the-art ecosystem. The new user interface, AccessEdge, available in Your Collateral Universe, allows clients to view specialised analytics to monitor their key performance indicators (KPIs), active trades, pending items and liquidity status, as well as a range of insights and research across time horizons and security types.



Digital and data solutions are foundational to BNY Mellon's strategy and a large part of the user experience. BNY Mellon continues to invest in analytics and productivity tools, which support further growth of the collateral management network. The firm has a suite of APIs to automate clients' interactions with its technology, which includes near real-time data delivery to help facilitate informed and timely decision making. Clients can also access BNY Mellon's digital

application, RULE, to negotiate collateral eligibility rulesets electronically. Clients continue to look for more flexibility and granularity when determining eligible collateral. We have developed eligibility parameters that meet a wide variety of receiver preferences — including targeted ESG goals, Special Purpose Acquisition Corporation (SPAC)-related criteria and enhanced ETF capabilities that can be enabled using the RULE interface. This new technology had a meaningful impact on the industry's ability to create thousands of new rule sets for Phase 6 of the Uncleared Margin Rules (UMR), while also contributing to improved operational efficiencies and a superior client experience.

As BNY Mellon's digital transformation evolves to include digital assets, enabling their use is foundational to broader market developments and to the future of custody. Extending services and collateral eligibility to include this emerging asset class will allow clients and partners across the industry to realise the true value of this revolutionary technology. Through innovative technology-based solutions, we aim to increase efficiency in the market and provide real business value for clients.

Optimisation

In today's financial markets, the demand for aggregation and the efficient allocation of collateral is accelerating. Our clients are investing in capabilities to have a comprehensive view of their sources and uses of collateral while optimising across asset types, transaction types and venues. Additionally, new regulations are creating incentives for more efficient liquidity, balance sheet management, collateral finance assessments and decision making.

Clients are leveraging the strength of BNY Mellon's collateral optimisation, eligibility screening and directed allocation solutions, which offer a more efficient and configurable method of allocating collateral. Our optimiser uses mathematical algorithms, client-defined inventory data, customised cost models and security reference data to reduce funding costs associated with Liquidity Coverage Ratio (LCR), Net Stable Funding Ratio (NSFR), and Comprehensive Capital Analysis and Review (CCAR).

To optimise settlements efficiently, we are delivering

advanced data and analytics to forecast bilateral treasury repo rates and bilateral settlement fails. Clients are now able to mitigate these fails in an automated manner that will deliver a material benefit to the market, improving liquidity and reducing costs. We are working with clients to manage and prioritise liquidity, regulatory lockups and prefunding obligations.

Once clients have an optimal view of their collateral, the next question is how you efficiently mobilise that collateral.

Mobilisation

Cross-border and legal entity mobilisation of marketable securities is a central feature of the collateral markets. We are seeing demand for collateral mobility driven by the need to meet regional obligations, minimise shortfalls and meet UMR regulations. Our one-platform strategy and interoperability tools facilitate the efficient movement of collateral to meet these client obligations across BNY Mellon's US\$5.8 trillion platform.

Additionally, as part of our Future of Capital Markets Infrastructure programme, our focus on mobilising collateral to central counterparties (CCPs) will assist clients with greater operational efficiencies across the globe.

BNY Mellon is developing services to support tokenised Treasuries from a clearance, settlement and collateral management perspective across regions. This will be achieved by bridging traditional and future market infrastructure technology platforms that will deliver digital asset custody and tokenisation-as-a-service. Efficient mobility requires connectivity to other regions and other service providers across BNY Mellon's platform and third-party venues.

To fully optimise and mobilise collateral, connectivity to other venues is essential.

Connectivity

Our platform facilitates connectivity to triparty agents, CCPs, central banks and fintechs, and is integrated with clients' internal systems. Connecting across our collateral ecosystem and to external pools of collateral

is key to serving clients and the industry. The addition of new markets and pools of collateral in which clients connect and finance inventory is a primary focus of ours. Examples include Hong Kong Stock & Bond Connect, Euroclear Collateral Interface and, more recently, Korea, Indonesia and, later this year, Malaysia fixed-income and equity collateral.

An example of cross-venue connectivity is our interaction with HQLA^x — a platform addressing the fragmentation in European securities markets. The platform allows for frictionless movements of collateral across the custodian and triparty agents. We are also collaborating with fintech aggregators to integrate our state-of-the-art digitised triparty collateral schedules and other digital solutions. These collaborations allow BNY Mellon to continue to innovate, deliver operational efficiency, improve accuracy and timeliness, and add additional clients to our network.

BNY Mellon has made significant investments to advance its collateral platform from a technology architecture and business capability perspective, which have resulted in a best-in-class experience for our clients. We are innovating to meet the demands of the industry and to help clients optimise, mobilise and connect their assets and liabilities across the globe. We will continue this journey with our clients in Your Collateral Universe. ■

Eric Badger
Managing director and global head of client relationships, Clearance and Collateral Management
BNY Mellon



SOLUTIONS POWERING THE FULL SECURITIES FINANCE ECOSYSTEM



TRADING



POST-TRADE



REGTECH



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SECURITIES FINANCE PLATFORM

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A close-up photograph of a man in a dark suit, white shirt, and purple tie. He is holding a white rectangular card in front of his chest with both hands. The card is blank except for the text 'Vendor Profiles' at the bottom right. The background is a plain, light color.

Vendor Profiles

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Acadia is the leading industry provider of integrated risk management services for the derivatives community. Our risk, margin and collateral tools enable a holistic risk management strategy on a real-time basis within a centralized industry standard platform.

Acadia's comprehensive suite of analytics solutions and services helps firms manage risk better, smarter, and faster, while optimizing resources across the entire trade life cycle. Through an open-access model, Acadia brings together a network of banks and other derivatives participants, along with several market infrastructures and innovative vendors.

Backed by 16 major industry participants and market infrastructures, Acadia is used by a community of over 2000 firms exchanging more than \$1 trillion of collateral on daily basis via its margin automation services. Acadia is headquartered in Norwell, MA and has offices in Boston, Dublin, Dusseldorf, London, New York, Manila, and Tokyo. Acadia® is a registered trademark of AcadiaSoft, Inc.



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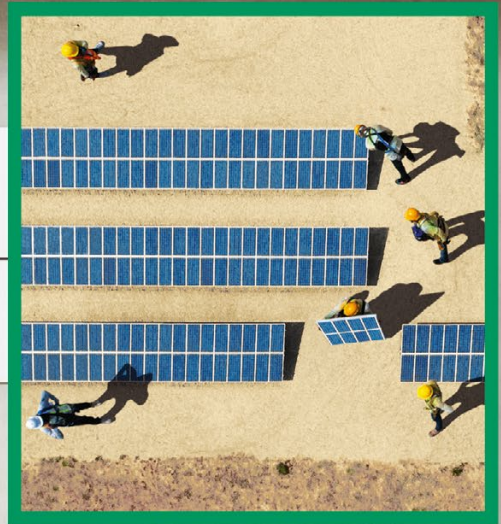
BNP Paribas is a multi-asset servicing specialist with local expertise in 35 markets around the world and a global reach covering 90+ markets. This extensive network enables us to provide our institutional investor clients with the connectivity and local knowledge they need to navigate change in a fast-moving world.

As of 31 December 2021, Securities Services business of BNP Paribas had USD 14.38 trillion in assets under custody, USD 2.87 trillion in assets under administration and 9,134 funds administered.

With an in-depth knowledge of global markets across multiple asset classes and currencies, BNP Paribas has supported securities lending and borrowing activities for many years. Our seven trading desks covering all established securities lending and borrowing markets allow us to provide in-depth knowledge of local market trends across multiple asset classes. BNP Paribas' proven track record in the securities lending and borrowing industry is the result of strong trading expertise, robust risk management policy and control, as well as the continuous development of operational efficiencies. We are able to provide both agency and principal lending services and our agency lending capabilities are also available in third-party.

Since 2017 we also support our clients with our triparty collateral management services, providing advanced technology and seamless user experience. With this solution, we enable you to connect with a large community of banks, asset owners, asset managers, hedge funds and corporates to manage your collateral for repo, securities lending, uncleared derivatives and other activity generating counterparty risk. Our solution is fully integrated with the rest of the BNP Paribas ecosystem to ease the connection between collateral takers and collateral givers.

TO ACCELERATE CHANGE, WE CONNECT YOU TO EXPERTS AROUND THE WORLD.



At BNP Paribas Securities Services,
we support your global ambitions
and sustainable investment strategies.
Our experts around the world provide you
with the connectivity, technology and
local knowledge you need in today's
fast-changing world.
Getting to a better future faster, together.
#PositiveBanking



BNP PARIBAS

The bank
for a changing
world

In the UK, BNP Paribas Securities Services is authorised and regulated by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution. Deemed authorised by the Prudential Regulation Authority and with deemed variation of permission. Subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details of the Temporary Permissions Regime, which allows EEA-based firms to operate in the UK for a limited period while seeking full authorisation, are available on the Financial Conduct Authority's website. BNP Paribas Securities Services London Branch is registered in the UK under number FC023666. UK establishment number: BR006393. UK establishment office address: 10 Harewood Avenue, London NW1 6AA.



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BNY Mellon's Clearance and Collateral Management business provides global securities clearing and collateral management services in more than 35 countries.

Our collateral services include collateral management, administration and segregation worldwide across repo, securities finance and non-cleared derivatives.

In addition, we are the leading provider of U.S. government securities clearance and settlement services, supporting new Treasury issuance and secondary market activity.

In 2021, we processed approximately \$10 trillion in securities transactions per day on behalf of our clients and ended the year with a record \$5 trillion of collateral on our global platform.

We offer innovative solutions, expertise, operational excellence and a resilient infrastructure which help financial institutions and institutional investors with their financing, risk and balance sheet challenges.



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Broadridge Financial Solutions, a global Fintech leader with over \$4.5 billion in revenues, provides the critical infrastructure that powers investing, corporate governance, and communications to enable better financial lives. We lead business transformation and deliver technology-driven solutions for enriching client engagement, navigating risk, optimising efficiency, and generating revenue growth, helping our clients get ahead of today's challenges with products that streamline and simplify the Securities Finance industry.

Broadridge Securities Finance and Collateral Management (SFCM) offers a suite of global, front to back office securities finance solutions for buy side and sell side. Both our full service integrated Mainline solution and new FastStart rapid spin up operating solution both support agency and principal trading of equities and fixed income securities across securities lending, repo, collateral management, collateral optimisation, and end to end transaction reporting solutions. Broadridge's solutions help customers comply with new regulations, increase efficiency, improve strategic decision making and make more intelligent use of capital, balance sheet and liquidity.

In addition, Broadridge provides project management, consultancy, business analysis and testing support to augment firms' internal regulatory project teams and help them comply with the rules in a timely manner. Broadridge's technology and operations platforms underpin the daily trading of on average more than US\$10 trillion of equities, fixed income, and other securities globally.

For more information about Broadridge and our proven securities finance, collateral management, and transaction reporting solutions, please visit our website.



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EquiLend is a global financial technology firm offering trading, post-trade, market data, regulatory and clearing services for the securities lending, collateral and swaps industries.

EquiLend's services include:

- NGT, the securities finance industry's most active trading platform
- Collateral Trading, enabling funding and financing desks a centralised way to execute and manage trade structures with their counterparties
- Swaptimization, automating global equity total return swaps trading workflow
- EquiLend Post-Trade Suite for securities finance operations
- DataLend, providing performance reporting and global securities finance data to agent lenders, broker-dealers, beneficial owners and other market participants
- EquiLend Clearing Services, offering trading services and CCP connectivity
- EquiLend SFTR, a no-touch, straight-through solution for the Securities Financing Transactions Regulation
- EquiLend Spire, a front-, middle- and back-office platform for securities finance businesses

EUREX

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As part of Eurex Group, Eurex Repo is a leading provider for international financing in the secured money market business. Its highly liquid marketplace combines electronic trading, with the efficiency and safety of clearing as well as standardised collateral management and settlement for secured funding and financing transactions.

A wide range of international fixed income securities and equities can be traded in e.g. EUR, USD, GBP and CHF within the General Collateral (GC) and Special Repo segments.

The Repo Market &, GC Pooling Market offer trading opportunities with a fully integrated trading, clearing and settlement. As soon as a trade is concluded Eurex Clearing steps in as central counterparty (CCP) and performs a comprehensive risk and delivery management. The eTriParty Market as well as the HQLA^x Market offer bilateral secured funding or collateral swap transactions without the involvement of Eurex Clearing as CCP. All markets are managed by Eurex Repo GmbH, a wholly owned subsidiary of Eurex Frankfurt AG.

Eurex Repo GmbH is part of the Eurex Group owned by Deutsche Börse AG. Eurex Repo GmbH is a Multilateral Trading Facility (MTF) according to the Markets in Financial Instruments Directive 2004/39/EC (MIFID) and is supervised by the German Federal Financial Supervisory Authority (BaFin).



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FIS is a leading provider of technology solutions for financial institutions and businesses of all sizes and across any industry globally. We enable the movement of commerce by unlocking the financial technology that powers the world's economy. Our employees are dedicated to advancing the way the world pays, banks and invests through our trusted innovation, system performance and flexible architecture. We help our clients use technology in innovative ways to solve business-critical challenges and deliver superior experiences for their customers. Headquartered in Jacksonville, Florida, FIS is a member of the Fortune 500® and the Standard & Poor's 500® Index.

Whether you're looking to trade in the cloud or take advantage of AI-driven risk analysis, FIS Trading & Processing has everything you need. With the most established and comprehensive set of front-to-back solutions in the market, you can harness global automation, gain a real-time view of your trading and operations, and access next-generation post-trade operations.

To learn more, visit www.fisglobal.com. Follow FIS on Facebook, LinkedIn and Twitter (@FISGlobal).

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HSBC is one of the world's largest banking and financial services organisations. Our global businesses serve more than 40 million customers worldwide through a network that covers 63 countries and territories. Our customers range from individual savers and investors to some of the world's biggest companies, governments and international organisations. We aim to connect them to opportunities and help them to achieve their ambitions.

We offer businesses loans to invest in growth, and products such as foreign exchange and trade financing that enable them to expand internationally. And for large companies and organisations operating across borders, we offer tailored advice on decisions such as financing major projects, issuing debt or making acquisitions.



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HQLA^X is an innovative financial technology firm founded by financial market practitioners. Our core clients are financial institutions active in securities lending and collateral management, and our shareholders include market-leading service providers in the global financial ecosystem.

Our vision is to be the distributed ledger for Securities Finance and Repo. We aim to achieve this vision by collaborating with our clients to design, develop and deliver innovative, technology-driven solutions for specific pain points in the financial markets.

Our immediate goal is to provide capital savings to global banks by improving collateral mobility across market-leading triparty agents and custodians in Europe. Together with Deutsche Börse, we created a multi-layer operating model which enables our clients to exchange ownership of baskets of securities across disparate collateral pools at precise moments in time. The atomic nature of our Delivery vs Delivery (DvD) ownership transfers provides our clients with capital cost savings by reducing credit risk, intraday liquidity requirements, and operational risk.

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As one of the world's leading global custodians operating in over 100 markets, J.P. Morgan's Trading Services offers an industry leading and innovative suite of settlement, asset servicing, tax, FX, collateral management, agency securities finance, cash and liquidity products.

Agency Securities Finance solutions enhance portfolio returns with customized solutions linked to award winning global equity and fixed income trading capabilities for securities held in custody at J.P. Morgan or on a non-custody/ third-party basis. Institutional investors can tailor lending programs to meet specific risk/return requirements. Individual program parameters are supported by expert service and technology that delivers holistic trading, risk, reporting, analytics and market intelligence from four trading desks across 37 lending markets.

A suite of Collateral Services products leverage a single global collateral platform, designed to meet local needs and efficiently manage collateral using innovative solutions for both collateral providers and receivers. Banks, broker-dealers, asset managers, insurers, central banks and pension funds can optimize their portfolios with sophisticated analytics and eligibility tools, bilaterally or via tri-party. Global capabilities, delivered locally to support institutions in managing collateral around the world or onshore to meet increasingly complex financing, liquidity and regulatory requirements.



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Margin Reform helps clients operating in the financial sector to provide strategy, insight and delivery across derivatives, repo and securities lending for the margin, collateral, and legal domains.

Our senior industry practitioners and transformative service model reduces the time to market on key revenue ideas, brings clarity to regulatory demands and competitive advantage to your most challenging problems.

By understanding your requirements whether at the starting point of design, enhancing existing practices or operating procedures, further developing internal capabilities and expertise, or providing the implementation experience and know-how to meet those goals.

Margin Reform has been created to address engagements in an agile, client focused way.

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The Options Clearing Corporation (OCC), named Risk Magazine's 2022 Clearing House of the Year, is the world's largest equity derivatives clearing organization. Founded in 1973, OCC is dedicated to promoting stability and market integrity by delivering clearing and settlement services for options, futures and securities lending transactions. As a Systemically Important Financial Market Utility (SIFMU), OCC operates under the jurisdiction of the U.S. Securities and Exchange Commission (SEC), the U.S. Commodity Futures Trading Commission (CFTC), and the Board of Governors of the Federal Reserve System. OCC has more than 100 clearing members and provides central counterparty (CCP) clearing and settlement services to 19 exchanges and trading platforms.

More information about OCC is available at www.theocc.com.



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SIX operates and develops infrastructure services for the Swiss and Spanish Stock Exchanges, for Post-Trade Services, Banking Services and Financial Information with the aim of raising efficiency, quality and innovative capacity across the entire value chain of the Swiss and Spanish financial centers. The company is owned by its users (120 banks). With a workforce of 3,685 employees and a presence in 20 countries, it generated operating income of CHF 1.5 billion and Group net profit of CHF 73.5 million in 2021.

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When it comes to collateral management, existing approaches and tools are often no longer fit for purpose. The Uncleared Margin Rules (UMR) are a pressing challenge. Systems are fragmented. Processes depend on inefficient and error-prone spreadsheets. As buy-side investors contend with the ebb and flow of the markets, the support of a trusted partner and access to advanced technology solutions have never been more important.

We know that you have specific financing needs that can change daily. Our team can help you capitalise on opportunities through our flexible and risk-based approach.

We understand your objectives and draw on our innovative product suite to provide the optimal solution to minimize costs and maximise returns. With more than 40 years of industry experience, we have extensive industry knowledge and a strong commitment to serving our clients.

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VERMEG is a specialized software house covering three main market segments in financial services: Collateral Management & Asset Servicing, Regulatory reporting and Digital transformation.

VERMEG is the global leading provider of Collateral Management solutions for Central Banks. Its business solutions have been designed to address Sell side, Buy side and major CSDs & CCPs' challenges linked to the transformation of the financial services industry, but also to support these financial institutions in the overhaul of their information system through cost reductions and time-to-market control.

In addition to offering standard software solutions that meet evolving digitized needs, VERMEG offers tailor-made solutions based on our own tools, project and business expertise.

VERMEG has over 1600 employees and supports more than 550 clients in 40 countries.

OCC Stock Loan Programs

Key Benefits

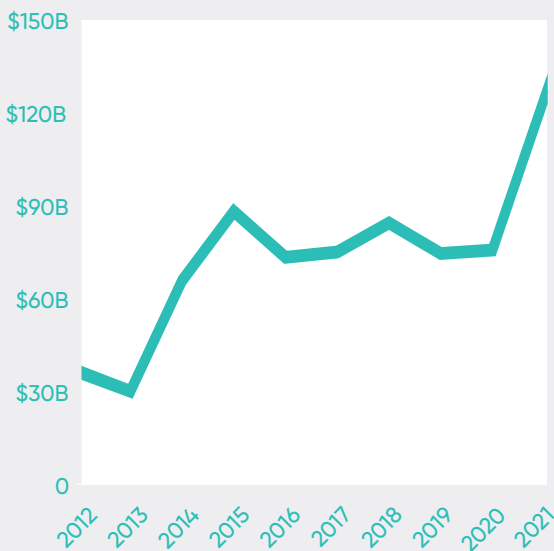
- Counterparty disintermediation
- Expanded credit and trading allowances for cleared activity
- Risk weighted asset savings of approx. 95% compared to uncleared stock loans
- Margin offset
- Automation and streamlined operations

79 125B

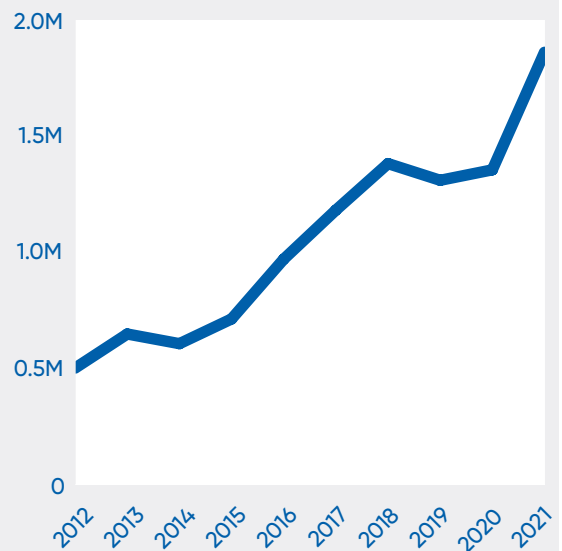
HEDGE LOAN
PROGRAM
MEMBERS

AVERAGE DAILY
LOAN VALUE
AT YEAR END 2020

Annual Notional Value of Loans



Annual New Loan Transactions



CO:RE

Multi Currency Repo Trading by SIX

Fast, secure and flexible in providing liquidity.
From trading right through to collateralization. SIX provides financial market participants with a multi-functional, electronic trading platform offering access to liquidity via a central point of entry.

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