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Collateral management

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The Lehman default almost three years ago came at the height of the financial crisis - a crisis that is not completely over even now. The default may have been the most famous part of the crisis, but it was by no means the only factor. Even now, we're seeing crises with countries' sovereign debt, and much of the Western world is still struggling to pull itself out of recession.

The Lehman collapse also changed the way both banks and regulators looked at the financial markets. Many financial institutions realised they didn't fully understand their exposure, while regulators wanted to ensure there were no more instances of banks being bailed out by the governments, and as such tightened capital requirements and increased the rules about what firms could and could not do.

Of course, not every institution with exposure to Lehman - or indeed other institutions that got into trouble - lost money. And many of these were firms that had effective collateral management systems in place. Indeed one London-based offshoot of an Asian bank has admitted it made a profit from the default, because the collateral it held was so strong.

Ensuring you have - or have offered - enough collateral is no longer enough. Now it's important that you give or receive the right capital. Even in the greenback friendly US, cash as collateral is slowly falling out of favour as treasuries realise that not only will this affect the bottom line, it could also affect your tier one capital ratios.

So making sure you can give away the collateral that won't make you a huge amount of cash - or are becoming overweight in certain areas - means understanding both the collateral you have available and the requirements of other parts of the business is increasingly important.

This importance grows even greater when we look at the changes to what were previously safe government debt markets. The downgrade of US Treasuries has probably had the biggest impact, with many counterparties requiring only AAA collateral. But the downgrades in Spain, Ireland, Japan and Greece may prove to be even more significant as - while there are fewer of them and as such less exposure for most banks - the prospect of default is that much greater.

Whether collateral management - or optimisation - is a cost centre or a revenue generator remains a topic for discussion. But the savings that can be made by using your collateral to the best advantage can make a real difference.

Ben Wilkie
Editor

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Stepping up

Clients are increasingly focusing on squeezing the best return from all their activities, including collateral management

LYNN STRONGIN DODDS REPORTS

Given the focus of the Dodd-Frank Wall Street Reform and Consumer Protection Act and European Market Infrastructure Regulation, collateral optimisation has become a buzzword after collateral management. It is no longer seen as an arcane operational function, but a critical tool for risk mitigation, liquidity management and revenue enhancement.

In fact, a sponsored report published late last year by Finadium and sponsored by SunGard shows that collateral optimisation - including managing cross-product netting and the use of central credit counterparties - will be a major focus. The drivers behind the increased emphasis have been well documented. Although the regulations are not finalised, there is no doubt that there will be a mass migration of over the counter products onto exchanges and through central clearing. While the ink is still not dry on the final version, the result will be a significant increase in the use of collateral and providers are already leveraging their infrastructure around listed products to provide a similar service for centrally cleared OTC products.

One of the issues is that optimisation can mean different things to different people. For example, it could cover rolling back and rebalancing assets on a daily basis or simply fine-tuning the movement of collateral across different transactions or structures to make better use of the collateral. However, the increased need to collateralise will put pressure on providers to use the collateral inventory as efficiently as possible to avoid constraints on the balance sheet. For many firms, this means employing stricter eligibility requirements to ensure the collateral received can be re-used easily. It will also require firms to analyse the inventory more regularly in order to use the most optimal assets to meet various obligations and avoid funding additional collateral, which can prove to be an expensive proposition.

As with any change, there are opportunities as well as challenges for service providers. According to data from Calypso, these include presenting a single and consolidated view across the different collateral positions as well as capturing and fulfilling all collateral obligations. It also means being able to model all the legal agreements and eligibility constraints so that collateral flexibility can be exploited. Last but certainly not least are employing advanced risk and scenario analysis tools to explore alternative ways of meeting obligations and optimising collateral use and exploring revenue generating opportunities based on collateral trading and optimisation.

Although all are important, breaking down the walls of the silos ranks as one of the highest priorities. The Finadium study, which canvassed 122 industry participants, found that over 60 respondents believed a cross-silo view will be one of the keys to better management of collateral

and optimisation. Historically, firms have slotted their asset classes into different prisms such as fixed income and equities, each with their own operating procedures, technology and organisational structures. The situation has further been exacerbated by having not only vertical product but also horizontal regional silos which means there are geographical, currency and settlement issues to be taken into account.

From an optimisation point of view, managing collateral across this type of landscape is challenging because the assets pledged must continually be monitored while the profile changes in different market conditions. Portfolios must be regularly viewed to see what has been pledged out already and to assess whether it is the most optimal assignment of assets to meet that obligation or if assets should be substituted to reduce the overall collateral cost. This ongoing calculation requires the various details of the collateral, including eligibility and haircuts across all asset classes to support the constant recalculation of asset assignment. Other factors to consider include settlement timings, failure and transfer processes which will vary depending upon if the collateral is included in a bilateral or CCP trade or if managed on a tri-party basis.

According to John Rivett, global head of collateral management at J.P. Morgan Worldwide, "Increasingly clients will want an integrated approach and have a broad picture of all of their exposures. At the moment, firms have sets of inventory held in different silos and this is not optimal. Collateral optimisation should also be about fulfilling counterparty needs and having the flexibility to quickly substitute specific securities wherever they may be located but without ramping up the costs. We think the tri-party model is the one of the best ways because it not only enables firms to optimise inventory multiple times a day but to do so very quickly. Also it has been around for a long time and clients are comfortable with the way it works."

Olivier de Schaetzen, director & head of product solutions global markets in Euroclear's commercial division, also "believes that optimisation of collateral allocation on a daily and inter-day basis is increasingly important. We are also seeing an increase in the demand for granular and more detailed reporting as a direct effect of new regulations coming into force. One of the main attractions of the tri-party arrangement is that clients benefit from having as much business as possible conducted under one roof. This requires a continual investment in the infrastructure and the ability to deliver new features."

Kurt Jarnagin, head of collateral optimisation at Royal Bank of Scotland, which offers clearing and collateral management services, says "collateral optimisation is not just about posting the cheapest-to-deliver collateral and fulfilling the obligation in the fastest time. It is to also about being able to address the different requirements such as the upgrade trade and the "what if " scenarios under the new regulations. Clients also want to mitigate settlement risk and have more detailed reporting on their collateral positions."

Tri-party though is not the only route. Nicholas Bonn, head of the securities finance division of State Street, sees merits in the unilateral banking model. "We do offer tri-party arrangements but we feel that clients can move assets around markets much faster and cheaper through straight through processing."

There are also technology vendors who are hoping to make their mark. For example, Calypso Technology has been at the forefront in the collateral optimisation arena and recently developed a collateral optimisation solution designed to help buy and sell side firms adapt to shifting regulatory requirements for OTC derivatives. The offering includes a proprietary algorithm that allows users to manage the collateral allocation process. Optimisation strategies are deployed based on substitution rules, targets, constraints and real-time information defined and governed by traders. Users may also plug in their own algos. The system provides overviews of positions, collateral requirements and allocations. It also enables analysis of the cost of funding/collateral at the trade level, allowing users to reduce operational costs.

According to David Little, director, strategy and business development at Calypso Technology. "Under the new rules, many buy side firms will have to pay initial margin whereas previously this was not the case. With many counterparties to a transaction, it becomes a difficult conjuring act to fit together the best possible allocation versus the new obligations. Calypso's solution looks carefully at the user firm's inventory, examines its obligations, and then chooses the best way to fulfil those collateral requirements."

As for the future, it is no surprise that regulation will be the main challenge. At the moment market participants are waiting with bated breath to see how exactly the details will be hammered out. The main thrust will remain the same and all agree that there will be much more emphasis on the collateral that can be posted.

According to Rivett: "Before there was a much wider classification but that will not be the case going forward. Also, clients will be looking at the collateral in a much more granular because they want a much more detailed understanding of the underlying assets."

Bonn of State Street agrees, adding: "When the regulations are introduced, there will be a lot of assets that are currently used as collateral such as high yield and investment grade corporate bonds that will no longer be eligible for collateral. We expect that there will be an increase demand for sovereign debt and US Treasuries. The view on Treasuries is that the supply will be scarce and spreads will narrow but we believe that will not be the case and spreads will widen, creating opportunities. The other trend for collateral optimisation that we see is the growing importance of cross asset class margining across all transactions which can help firms reduce margin requirements and related collateral funding costs." **SLT**

Historically, firms have slotted their asset classes into different prisms such as fixed income and equities, each with their own operating procedures, technology and organisational structures. The situation has further been exacerbated by having not only vertical product but also horizontal regional silos

A day in the life...

Collateral management is moving to a whole new phase, with consolidated positions and new technology leading the way

BEN WILKIE REPORTS

Although collateral has been used for hundreds of years across all forms of transactions, collateral management as we know it today began in the 1980s when Bankers' Trust and Saloman Brothers started to take it against credit exposure.

At the time, it was a completely manual process and a very simple one - usually an amount of cash equal to or government bonds worth slightly more than the amount of exposure the counterparty had.

Now, says Lombard Risk's Martin Wingate, it's all different. Wingate is a 10-year veteran of the industry, with a career at Societe Generale, Morgan Stanley and Daiwa, before joining Lombard Risk. "It's still not all automated but it's definitely getting rarer," he says.

At its heart, collateral management is very simple. It's simply there to provide both parties in the agreement with protection against default. Thanks to industry standard agreements, preparing a contract with a counterparty is straightforward and it's easy to keep track of exposures and collateral. But the increasing focus on risk management, along with greater regulatory pressures on financial institutions following the credit crisis means that managing and optimising collateral has become much more important.

Collateral margining can essentially be broken down into four consituent parts. First, there's the need to capture the data - take feeds of the static counterparty data, the legal agreements and the organisations and legal entities involved. Then there's the live data on securities available, the market data and the mark to market.

Next is the requirement to calculate the call, to understand the margin requirements both intraday and overnight. Once that is known, the manager can process the call - place and receive margin calls, deliver of mark to market statements, book collateral movements, then carry out the reconciliation and manage any disputes. Finally, there's the reporting function, to internal managers, to counterparties and for regulatory purposes. This will include mark to markets, collateral balances and interest statement.

As the role of collateral and the importance to the overall business has become better understood, the function of the collateral management team extends into many more areas of the company. This is particularly true when it comes to ensuring regulatory compliance - in addition to the collateral management team itself, the front office will need to know about the capital calculations and the collateral used and remaining.

The legal teams need to maintain the agreements and - if they need to be changed in order to best optimise the collateral - make the necessary amends. On the finance side, there's the need for a full understanding of the collateral used and the profit and loss. The IT team is responsible for ensuring data feeds in to whichever system the collateral management function is using, while there will also be input from credit departments - especially in the current climate, where there is less trust about the stability of financial institutions - and operations.

It's likely to get more complex still, however, as collateral management becomes collateral optimisation and moves from a silo-based approach into a more consolidated business centre for the institution.

As listed futures and options, derivatives, repo and securities lending, all with different agreements, different collateral strategies and different teams with their own requirements come together, the consolidated collateral programme may require some leap of faith to implement, but promises far greater efficiencies - it will reduce capital requirements by allowing the netting of positions, while enabling the institution to save money through centralisation while at the same time being able to get a far clearer understanding of assets and liabilities.

This will of course require further automation. By creating a consolidated margin call, technology allows users to assess the collateral requirements and assign the 'best for them' to counterparties. This frees up credit lines through the recognition of off-setting positions and makes best use of the cash - which with higher capital ratios has become the prime focus of many treasury teams - and collateral. A master netting agreement can significantly reduce the amount of collateral that goes out to the counterparties, freeing up huge value internally for other areas of the business. **SLT**

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Accepting change

Implementing a collateral optimisation system does not require the sea change that many institutions believe, says Calypso's David Little

BEN WILKIE REPORTS

SLT: How big an issue is collateral optimisation at the moment?

David Little: It's certainly much bigger on the sell side than on the buy side but interest is growing across the market. There are several catalysts for the change:

Firstly, in OTC derivatives clearing the biggest opportunities and challenges are being faced by general clearing members. A lot of the buy side and smaller institutions are looking at outsourcing their clearing services, while the majority of action is taking place in larger sell side institutions - the G14 banks, the big prime brokers, the big custodians.

I think collateral management is revenue generating for the big guys offering these services. There is a bit of risk management and operational efficiency driving the optimisation in the rest of the market. So the need to protect your resources is more important than generating revenue. It's potentially costly in terms of finding and allocating the right capital.

If you don't go down the cleared route in regulated capital markets, it's liable to be constraining; if you don't manage it well, you face potential difficulties with your regulatory capital and capital risk.

SLT: What do you feel is the solution to this?

Little: The solution for much of the market is to wait and see. And that's what's driving people to outsource their provision. The larger organisations are saying that whichever way this thing breaks, we want to be at the heart of it. So they need to have the systems in place.

SLT: Who has got it right at the moment?

Little: I don't think anyone has the processes and procedures in place that they're happy with. People are either buying, building or outsourcing. If they're building, they're only at the very beginning of a long and arduous project. Within the architecture, you need to understand the scope of optimisation, the number of counterparties, the flexibility of the business rules, how to operate emergency systems and so on.

On the buy side, the move isn't towards optimisation, it's about best practice collateral manage-

ment. That means your daily process is about making sure you are calling brokers for margin and not just waiting to be called. This means having the flexibility to take and give multiple currencies and non cash as collateral. It means reviewing the terms of CSAs, and haircuts/eligibility criteria.

SLT: What does the change involve?

Little: In part, collateral optimisation is a fancy name for understanding and balancing supply and demand. It could mean some CSAs will need to change, because that's where the rules about what you can give and receive are. You need to understand which assets you should use and CSAs can be renegotiated to allow you to use the assets you do have available rather than the cash you don't.

The whole market is swept up in clearing. They have to manage the way margins are called by CCPs - the processes are different. This means there are likely to be business process reviews as well as data and terms.

SLT: How does this affect the human resource needed within the business?

Little: In the future, I feel that the operations personnel will have a critical role to play when it comes to margin call processing, delivery and receipt of collateral and so on. But in an organisation doing collateral optimisation, you also need the front office mentality, who will be setting the parameters of the optimisation and communicating that to the back office.

The back office still needs to do its job efficiently, but the front office needs to explore the flexibility in CSAs, as well as the capabilities and objectives of what it wants to achieve and then communicate that.

SLT: Is it possible to manually optimise collateral, or is it solely the preserve of the systems?

Little: Calypso can set the parameters, which can be amended as conditions change. So if, for example, 50 per cent of counterparties won't accept Greek or Spanish debt, if US debt gets downgraded further or if interest rates change, the system gives users the opportunity to understand how it could move further towards non-cash collateral.

A good system will allow the user the flexibility to use different instruments, such as corporate debt, set best to worst, set optimisation rules on matters such as substitutions and let them use their positions to be more or less aggressive on rehypothecation.

Whatever system you are using, the distribution of your collateral today is not optimal. Things are changing all the time, which means that what you're trying to achieve is also changing.
So the front office is always asking how far it can move each day - can it deliver optimally, can it offer substitutions? But it's never going to be able to do all of them, so they need to do the most optimal substitutions. Then the next day it will do more, and the following day more and so on.

Instead of operations asking the front office which is the best collateral to use, Calypso will tell you the best

One of the challenges with optimisation is not to make the back office function more difficult or complex than it already is. It's vital that the two different user groups work together seamlessly.

SLT: Is it possible for everyone to optimise their collateral, or is it the case that to optimise your collateral, you require a counterparty that does not do so?

Little: That would be the case if the system was inflexible but it's not. It's about what the firm is long of, what's cheapest for it to deliver. Maybe the whole market is short on something so that's at a premium, but everyone has different haircuts and eligibility criteria. And funding rates are different, which means what's good for one party isn't necessarily good for the other.

SLT: How much of this is driven by increased regulation?

Little: Governments are saying that as part of the liquidity rules they are obliging banks to put huge buffers aside as a fungible pool of collateral. But they are able to substitute eligible securities within these buffers.

So it's a regulatory burden but it's also an opportunity - you're able to replace 10-year bonds with something else. But the systems have to support it, there are thousands of agreements and millions of trades so it's a big task to sort out and get your arms around it. The tools we've built allow them to do that.

SLT: Can it improve a company's risk management?

Little: Collateral optimisation is intimately connected with risk management. It's all part of credit risk and if the risk department isn't able to show regulators it has good quality collateral management in place then the firm will be penalised.

SLT: Does this change the position of collateral within an organisation?

Little: Collateral trading will become a front office function and a lot of banks are already treating it that way. It doesn't change the back office collateral management process but it's about what you can do beyond that. It's making money out of collateral and providing client services, transformations and collateral flow processes.

SLT: If an institution wants to move towards collateral optimisation, what do they need to do?

Little: Assuming it keeps all the processing as it is, we can install the Calypso system, which will take a feed from the back office system for the available inventory. We need to capture the static data - the CSAs - and understand issues such as concentration limits. Then it's all about how much detail of the trades you want to import into Calypso.

If you bring the entire trade in you can use Calypso to do the whole process from valuation to margin call. But you already have systems doing much of that, and you don't necessarily want to duplicate everything.

If you want a minimal install to achieve optimisation, it's a matter of bringing in a very small amount of data to assess all your collateral obligations. You need the inventory so you can see what you've got to deliver and you need the legal agreements and the haircuts and the collateral requirements. With that minimum amount you can run the optimiser in Calypso and continue to use pre-existing systems for valuations and to manage the margin calls.

Instead of operations asking the front office which is the best collateral to use, Calypso will tell you the best. You can start using the system with a minimal amount of information and only using the basics of it, and then later, if you wish, you can move towards managing the whole process on there - the whole margin call and dispute process.

Such a setup would give the front office a very powerful new tool for optimising. **SLT**

David Little
Director, strategy & business development
Calypso Technology

A critical moment for collateral management

BNY Mellon's Paul Harland assesses the changing environment for collateral management

SPONSORED INTERVIEW

As the financial crisis enters a new and uncertain phase, collateral management has taken on a new and profound significance. For an insider's view on the issue, Securities Lending Times turned to Paul Harland, managing director with BNY Mellon Broker-Dealer Services, who characterises the current environment as one of "evolution, revolution and regulation."

SLT: BNY Mellon is one of the largest global collateral managers so I imagine you have a pretty good feel for what market participants are looking for?

Paul Harland: That's right, we have been one of the world's leading collateral managers for many years now. We pioneered this business in the early 1980's and have built the industry's most comprehensive collateral management platform, managing over US$1.8 trillion in collateral transactions every single day. We service dozens of major institutions including every major investment banking business in Europe and 16 out of the 20 primary dealers in the US.

SLT: What are the main drivers of client demands in the aftermath of the financial crises?

Harland: We would perhaps characterise with the words evolution, revolution and regulation.

We have seen evolution of the financing models driven by many things, including a desire to be self-funding, an aversion to reliance upon unsecured lines with a need to diversify funding sources.

The financial crisis caused revolution – a collapse of counterparty confidence, a scramble to quality and an increased focus upon collateral. More collateral is being called and on a more frequent basis. I will give you an example; in the OTC derivatives market many buy side firms had not previously considered calling collateral. In addition, Credit Support Annexes (CSA's), if signed, were rarely reviewed or relied upon. I can assure you, that's no longer the case and many of those firms - as many as 50 percent according to our research - have passed their collateral management to third-party providers like BNY Mellon.

Which brings us to regulation, something that has perhaps consumed more time and energy than anything else over the last couple of years and is going to significantly shape the markets over the next decade.

SLT: Can we talk about how the secured financing markets have behaved since the financial crises?

Harland: The equity financing market consists of multiple trade structures; stock loan short covering, equity collateral against stock borrows, upgrade trades, total return swaps, repo, etc. All trade independent of each other, and each has proven resilient thus far.

Doubtless in the immediate aftermath of the crisis we saw balances fall, but we are back well-above record highs.

SLT: Looking at the regulatory changes, what do you anticipate?

Harland: One thing is certain – collateral is going to be more important than ever before. Let's look at the proposals; we have Dodd Frank, ok it's been deferred for six months, but is going to happen, then we have EMIR and the detailed rules under ESMA due at the end of June 2012.

All swap dealers and major swap participants are going to be impacted and each of these entities will be obligated to post margin either to its clearing member, who will in turn have margin obligations to the CCP.

The gross numbers are potentially huge, as much as US$2 trillion has been suggested, though in reality no one can say with certainty yet and that's going to raise all sorts of issues.

The only thing that is certain is that there will be a cost, a cost that ultimately is paid by reduced yield and as much as 200 basis points have been suggested, but plenty is unclear.

Eligibility, for example: how does an equity-based institution faced with a requirement to post cash or G7 debt accommodate the collateral obligation?

Then there are timing issues. CCP's are suggesting multiple intraday margin calls and that is not something that's easily achieved outside of a book entry tri-party collateral manager.

BNY Mellon has the scale, focus, expertise and long-term commitment to address market needs during this period of unprecedented change

That's why we are sure that collateral managers like BNY Mellon are going to be increasingly important and collateral optimisation critical for efficient operation of the post-trade infrastructure.

SLT: What is BNY Mellon doing in light of all these new changes?

Harland: Our clearance and collateral management services have been crucial to the sell side infrastructure and increasingly, over the last few years, our expertise and robust platforms have been relied upon by the buy side.

What does all that mean? We have a significant securities processing business and are a technology-based infrastructure provider. We have the scale, focus, expertise and long-term commitment to address market needs during this period of unprecedented change.

We are also consulting across all market participants in order to leverage our broad range of post-trade services. That includes not just collateral management, valuation, screening, margining and optimisation, but also middle and back office services and safe keeping and segregation of assets as well.

We are talking to buy side firms about fulfilling their obligations and helping them shape post trade infrastructure. We are talking to sell side FCM's because they also face infrastructure challenges and increasingly are looking to BNY Mellon to deliver on our core competencies whilst they focus upon theirs. Finally we are talking to CCP's who recognise that, whilst they may want to call margin many times a day, the requirement is challenging and a tri-party collateral manager is uniquely positioned to deliver.

SLT: Looking forward, what do the next ten years have for us?

Harland: Well, that's the $64,000 question, isn't it?

Perhaps I'm being overly pessimistic, but as George Bernard Shaw once said, 'If history repeats itself, and the unexpected always happens, how incapable must man be of learning from experience.'

Perhaps the thousands of pages of committee-generated rules will create the Nirvana of stability and certainty. An alternative view could be that regulators and authorities are creating a framework with potential for a systemic perfect storm.

What do I mean by that? Well all the CCPs are, relatively speaking, thinly-capitalised relative to value of business transacted. In addition, given their global business models, most do not benefit from a definitive lender-of-last-resort or support from any nation state. Similarly, their default funds, whilst large, are not limitless and though they comprise high-quality fixed income securities, we have all seen this summer everything has risk.

As Alan Greenspan said at the time 'This decade is strewn with examples of bright people who thought they had built a better mousetrap'. **SLT**

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The views expressed herein are those of the authors only and may not reflect the views of BNY Mellon. T his does not constitute business or legal advice and it should not be relied upon as such.

Paul Harland
European sales director
BNY Mellon

View from the top

How has collateral management and collateral optimisation developed over recent years, and what are the trends for the future?

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Olivier de Schaetzen
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Director, collateral management services

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Managing director, financing & markets products

Martin Wingate
Lombard Risk
COLLINE business matter expert

SLT: How has collateral management changed since the financial crisis?

Paul Wilson: The market crisis and subsequent events have thrown risk mitigation of counterparty risk by the use of collateral management into the spotlight. The first trend has been the use of collateral by a broader base of users as well as a broader use of collateral in different scenarios.

The most evident changes have been in the broader use of tri-party to support the collateral process and exponential growth of collateral in support of OTC derivative transactions. In all instances, we have seen greater customisation and parameterisation in the collateral eligibility schedules across the board, as users look to set collateral parameters to more detailed and granular levels.

The industry is becoming more complex given the broader use of collateral. Collateral users are looking to maximise the effectiveness of collateral, via the use of a combination of optimisation and re-use tools, as balance sheet and capital costs increase. The demands on collateral providers to stay ahead of the curve is becoming more challenging as the markets and users demand greater levels of granularity, like quicker optimisation tools.

The regulatory environment is also driving changes to the business and operating environment. Regulations like Dodd Frank, EMIR and Basel III need to be understood and solutions developed to accommodate them. This is particularly evident in both the derivatives market and the US tri-party repo market where the changes evolving from the Federal Reserve sponsored Tri-Party Repo Infrastructure Reform Taskforce are being implemented.

Olivier de Schaetzen: Collateral management has clearly emerged from the crisis as a pillar of strength within the new financial market landscape. With the unsecured market drying up and regulators pushing banks to increase the term of their funding activities, many institutions are looking to optimise their collateral management capabilities in order to secure their business and remain competitive in such a volatile and fast-changing environment. Thus, collateral management has already increased in importance.

We're also seeing a new trend in how cash investors with term liabilities are massively turning to the repo markets to secure their investments. With this decision comes the requirement of man-

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aging collateral on a bigger scale. Many firms are naturally channelling this responsibility to professional triparty collateral managers, such as Euroclear Bank. The entry of corporate treasuries within the triparty service environment is clear recognition of the resilience and dependability of triparty solutions when it comes to investing excess cash. This trend is significantly changing the composition of the repo markets, where corporates and money-market funds are overtaking commercial banks as cash providers.

Another trend that will soon have a substantial impact on collateral management follows from new regulations, including the Dodd-Frank bill in the US and the European Market Infrastructure Regulation in Europe. The OTC derivatives market will undergo a major transformation, with exchanges attracting a significant amount of this business. This shift will inevitably have collateral management implications and increase the challenges of managing collateral efficiently.

Olivier Laurent: Since the financial crisis, counterparty risk being a major concern, the need for collateral has risen. In March 2010, ISDA produced a market review of OTC Derivative Bilateral Collateralisation practices: 78 per cent of derivatives are collateralised (73 per cent if we considered only buy-side counterparties). Since the crisis the usage of ISDA with CSD annex has been systematised.

Martin Wingate: Collateral management has seen significant change post-financial crisis. On the one hand by firms increasing volume of collateralised trades to secure transactions and ensure risk management and compliance – ISDA Margin Survey 2011 shows that 70 per cent of OTC exposure is now collateralised vs 59 per cent and 30 per cent in 2007 and 2003 respectively.

On the other hand – regulators are set to implement changes over the next 12-18 months which will have a considerable, operational, legal and commercial impact on the OTC derivatives market, the result of which will be that market participants will have to post more collateral and face collateral calls more frequently from a broader spectrum of counterparties – with trades collateralised with high-liquid instruments.

During the Lehman crisis, many buy-side clients never recovered the independent collateral they had pledged. Post-crisis, firms have started to insist that independent collateral is held at a segregated, highly-rated tri-party agent.

Collateral management systems need to cater for separate independent and variation margin calls and provide the ability to reflect segregated collateral.

Tri-party involvement in the collateral management process is evolving further as regulation to clear derivative transactions at a central counterparty (CCP) develops. CCPs will all require independent collateral from each clearing member with the ability to make intra-day variation margin calls. Firms will need to be able to compare their own exposure calculations to those that the CCP uses to ensure complete transparency.

COLLINE fully supports intra-day margin calls and is the only collateral management solution that has CCP functionality already in use.

Gilbert Scherff: There is certainly much more focus on the legal aspect of the industry, as well as a drive towards optimising and automating the collateral process.

Pascal Morosini: As the leading collateral agent in Europe with €600 billion under management, we have seen a drastic change in the approach of our customers towards collateral management. It is no longer considered as a back office function but has now the attention of every boardroom and senior management.

This is a critical function by which a firm could optimise the usage of its collateral but also reach priority source of liquidity as well as new source of liquidity. We see more and more firms making sure that they have access to central bank liquidity, whether it is the FED or central banks in the Eurozone or outside of the Eurozone including in the Asia Pacific region.

On the other hand, since we have launched a partnership with the Brazilian CSD Cetip to insource the collateral management for their OTC derivative business, we have been approach by several market infrastructures wanting to offer collateral management to their customers but without the systems to do so and with little budget to develop it.

So collateral management since the crisis is gaining a great deal of attention especially since unsecured business is drying up and regulations are bringing additional pressure pushing for more secured business. We can say that the scope of collateral management has widened but also that it finally got the attention it deserves.

Philippe Rozental: In the past two or three years, the different controls related to collateral management have been increased and fine-tuned. Different alerting systems have been implemented, especially for the counterparty exposure follow up. The haircut requirements by counterparts has changed on some types of equity or bonds. It has become more and more difficult to use bonds or equity to be used as collateral.

Jane Milner: Collateral management has been propelled to centre stage as the importance of collateral from a risk mitigation perspective became apparent. Financial services firms now realise that they need firm controls around the collateralisation process and that the risks involved in the collateral process must also be properly managed. More recently, collateral management is being discussed as a way to increase liquidity and hold down the cost of doing business.

SLT: Is collateral management now considered a business where profits can be made rather than just a risk mitigation strategy?

Rozental: In most cases, not. However the collateral combined with cash reinvestment activities could be a profit generator for the players

Morosini: Well, it has always been both, it is just that compared to other types of investments or products, the spreads were lower. But the spreads have always been there, especially in repo and securities lending as a financing tool. But it is true that most of the time these days the first priority is risk mitigation, quality of the assets, pricing, haircuts and concentration criteria far more than pre-crisis.

We have seen new customers rushing to put agreements in place in order to protect securities lending transactions by setting up a guarantee in the form of securities to protect a business that was done on a partial or fully unsecured basis. The trading of collateral remains lucrative but cannot be compared with pre-crisis P&L: firms have more difficulties to refinance their less liquid assets and the flight to quality we have seen since the crisis is pushing revenue targets down.

Wilson: First and foremost, collateral management is a risk mitigation tool. But within this model the efficient use, re-use and optimisation of collateral is paramount. Maximising the efficiency of collateral and reducing the cost of collateral provision can be a way in which “profits” can be made by way of reduced financing costs.

de Schaetzen: Collateral management will predominantly remain a strong risk mitigation business practice that will be increasingly necessary to sustain financial market confidence and resilience. It is here to stay. The growing demand for and the different challenges associated with managing collateral to meet a broader range of needs will surely create new opportunities for collateral management service providers with experience and know-how.

For example, firms active in derivatives may need to manage collateral transformations to ensure compliance with central counterparty requirements, an aspect of doing business which will challenge many firms. At Euroclear Bank, we are currently helping our triparty collateral management clients to design efficient collateral management solutions for their underlying clients to meet these new types of collateral demands.

Laurent: Collateral Management Agent is a service provided by securities services departments (position reporting, handling of margin calls, reconciliation and dispute resolution, collateral transformation). It is a relatively low profit margin activity for those firms, but would strictly be risk mitigation strategy for investment firms, and a mixture of the two for brokers.

Wingate: Running collateral management as a cost-centre is not a new concept. Funding of collateral has always impacted a firm's P&L but as the volume of collateral pledged has grown and cost of funding cash increased, opportunities to optimise collateral usage have developed. With some firms now having billions of USD of collateral outstanding, what was once an almost immaterial cost is fast becoming key to profitability. As is the ability to rehypothecate held assets but transparency regarding where assets are is becoming key

Scherff: Collateral management is mainly risk mitigation. By optimising the collateral process one can lower costs but keep in mind collateral management is a cost centre not a profit centre.

Milner: While it is not being seen as a profit centre per se, it is true to say that the trading aspect of collateral management is now considered more of a front-office role, and the number of desks dedicated to collateral trading has increased. In addition, pro-active collateral management is certainly seen as a way of minimising collateral costs, thereby increasing the profitability of the underlying trading activity. There is also an opportunity for the sell side in providing more collateral management-related services, tri-party arrangement, liquidity provision, collateral upgrades, outsourcing, etc.

SLT: How has collateral optimisation affected the market?

Wingate: Or has the market impacted collateral optimisation?

The increasing cost of funding collateral has led firms to optimise it and larger firms now have dedicated collateral optimisation operations in place - analysing the firm's asset base and selecting the best (often the cheapest but increasingly the most efficient) collateral to deliver. Also, the type of collateral is now being factored into the pricing of derivative trades, with businesses looking to use CVA swap curves in their valuations.

To further assist funding and reduce risk, banks have become even more selective about the collateral they accept, increasingly declining lower-rated securities in favour of more liquid AAA Governments or cash. Ironically, this increase in demand for better quality collateral contributes to the increase in cost of funding.

At the other end of the spectrum, firms are looking harder for opportunities to rehypothecate previously under-utilised esoteric collateral.

Technology plays a large part in optimisation as the collateral management system can calculate the optimum collateral to pledge for a specific client, based on configurable rules and parameters such as cost, efficiency and client acceptability.

Milner: The optimal assignment of assets to collateral obligations is now an imperative due to three factors: increased collateral requirements, rigour around the definitions of eligible collateral, and increased capital requirements. But while there is certainly a drive for greater collateral optimisation, particularly from the sell side, optimisation means different things to different people. It is not possible to group all of the different interpretations together when considering the impact on the market.

At this point I would say that it is more a case of seeing a lot more discussion about how to achieve optimisation, rather than clear results from its implementation. Full optimisation is still the holy grail that many are seeking, rather than being something that is out there and fully operative.

Wilson: The demand for collateral optimisation from our clients has increased. We have developed and implemented Global Longbox and External Longbox as part of our Global Collateral Engine initiative to help clients better leverage our existing robust optimisation tools. The key components of our overall service offering are helping our clients reduce their financing costs and source new funding. Optimisation was perceived as a siloed function. But today, it is viewed as an enterprise wide activity.

de Schaetzen: With the growing need for collateral, collateral managers are constantly looking to optimise increasingly scarce collateral resources. Optimal and dynamic collateral allocations are vital, but this is not enough. In Europe, the fragmentation of collateral resources is a real issue that collateral managers confront every day.

Euroclear Bank, in partnership with domestic agents, is improving collateral mobility across Europe and beyond by putting in place a structure that moves collateral seamlessly between various domestic markets and Euroclear Bank's triparty platform. Moreover, firms using the services of domestic CSDs that are part of the Euroclear group for their financing needs will be able to manage collateral within those domestic market CSDs through a triparty collateral management service. This is the case at Euroclear UK & Ireland today. Clients of Euroclear's ESES platform, covering the Belgian, Dutch and French markets, will be able to manage their collateral needs for open market operations by the end of this year. In 2012, the ESES and Euroclear Bank collateral management platforms will become fully interoperable, enabling clients to avail and optimise their use of collateral across multiple systems. All in all, the potential pool of collateral at Euroclear is €22 trillion.

Laurent: Optimisation lowers the cost of implementation of collateral management as risk mitigation strategy. It gains in importance and benefit when haircuts are high or increasing. It mitigates the deleveraging impact of posting collateral.

Scherff: Liquidity is getting more expensive in combination with a volatile market this has a impact on the daily process of the bank (keep Basel III in mind)

Morosini: The collateral movements to optimise the collateral allocation making sure it is at the right place at the right time has a cost and also puts pressure on collateral givers on a daily basis. This is for the simple reason that these days any piece of collateral is used and optimised because it is also becoming a scarce resource. On top of that, most of the collateral receivers change their eligibility criteria more frequently than pre-crisis, adding an additional stress on collateral givers to make sure they have the right quality to comply with these new criteria.

We can see this in our collateral management engine: the movements of collateral have also increased due to these eligibility changes and optimisation needs across different contracts and counterparties. We also receive more requests for sample forecast reports. This helps the collateral givers to have an idea if some of the assets they hold in other collateral locations are eligible with the network of counterparties they have in our Global Liquidity Hub.

Every little piece of collateral has to be financed or used to cover various types of exposures such as repo, lending, OTC derivatives loans, allocation to central banks and other type of structured transactions. Certainly new regulations and liquidity measures imposed by regula-

Euroclear collateral management

Flexible and forward thinking solutions for a world in motion

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tors have an impact on the way the collateral is allocated and optimised, we see regular requests to tweak the collateral allocation to comply with new liquidity regimes modifying the allocation between prime and non-prime assets.

Rozental: Most players are looking how to optimise the use of cash through different cash reinvestments programme that has been developed internally or in collaboration with service providers

SLT: Have the sovereign debt crises in Europe and potential problems with US ratings changed the way you look at different types of collateral?

Milner: The perception of 'quality' collateral has certainly changed over the recent times – and there has been a good deal of collateral schedule updates taking place. One direct impact of recent activity has been to increase the focus on the stress testing requirements of a collateral system in order to predict the impact of potential downgrades.

Wilson: We act as a tri-party agent and it is our clients who determine what securities and what parameters they wish to have in place for each of their counterparties. Eligibility schedules tend to be dynamic and automatically cater for changes in ratings.

de Schaetzen: Reacting to rating changes is an essential part of the role triparty agents play in the management process. At Euroclear Bank, we receive feeds directly from the major rating agencies, which means that we can immediately update collateral positions should the rating change for a specific issue. Securities falling below the rating floor, as defined in the underlying agreement between the two counterparties, will automatically become ineligible as collateral. AutoSelect, our collateral management algorithm, will then select alternative eligible collateral to cover the transaction and return the ineligible asset to the collateral giver. This automated collateral substitution process can occur within an hour of receiving notification of the rating change since AutoSelect runs almost every hour during the business day.

As a result of the sovereign debt crisis, we have seen repo counterparties making changes to eligible collateral profiles by eliminating specific sovereign issuers. Some sovereign issuers, such as Greece, have virtually disappeared from the collateral pool used in the repo market. This trend has been confirmed by the most recent ICMA repo survey.

Laurent: Some organisations do apply haircuts on sovereign. Others don't. It is pretty hard to find a consensus right now, especially right after the S&P downgrade on US debt. Knowing that CME announced earlier in August they have increased the haircut that applies to US government debt posted as collateral, we could easily infer it will tangibly impact collateral management rules.

Wingate: Yes. Many firms have placed acceptability restrictions on debt issued by the PIIGS counties (Portugal, Ireland, Italy, Greece and Spain) – many simply unable to accept it.

Firms are increasingly using concentration and correlation rules to ensure portfolio diversification and minimise risk. (For example, an Irish bank pledging Italian debt as collateral is less desirable from a credit risk perspective than an Irish bank pledging AAA-rated security with no correlation to the Euro debt crises). Where firms are declining PIIGS debt, collateral pledgers are sometimes faced with having to offer higher quality collateral such as cash or AAA rated securities – again increasing the demand and associated funding cost.

Although US treasuries may still be regarded as perfectly acceptable collateral firms are now looking to increase the haircut of the collateral in light of the fact that US has lost its AAA rating.

COLLINE currently maintains acceptability criteria such as asset class, correlation and concentration rules and ratings and tenor based haircuts, so preventing a collateral analyst from agreeing collateral that conflicts with a firm's internal credit policy, and report on discrepancies.

Scherff: An agreed collateral acceptability in the master agreement has to be updated more often. Also in the pricing of a treasury deal changes happen more often also on the back of the accepted collateral.

Morosini: As a market infrastructure, we have strict risk management guidelines reflecting our conservative approach towards business and the responsibility we have in the financial market. With our principal role hat on, we have strict guidelines for both our treasury business and our securities lending business with minimum rating set at A + combined with other concentration criteria and exclusion criteria.

The European debt crisis and the US rating change pushed us to reinforce some concentration criteria but overall we did not change our criteria but reinforced our liquidation procedure. With our collateral agent role hat on, we reinforced our rating selection process to make sure we considered any changes happening on the market.

So far we must admit that very few collateral receivers have changed their collateral eligibility criteria or excluded some countries as long as they are investment grade. Although we see more and more collateral receivers willing to use equities as collateral, we cannot say that the market has yet digested the fact that government bonds are maybe no more a point of reference for being the most secured assets.

Actually, people start to realise that if the single A range were exhausted, very few countries in the AA range would remain before reaching the AAA range. We don't think that a deep exercise on which collateral alternative to AA and AAA government bonds has yet started within the most conservative organisations.

SLT: What effect do you feel the emergence of CCPs will have on collateral management?

Wilson: The use of central counterparties (CCPs) for vanilla derivatives is changing the way the buy and sell side view collateral management. The level of complexity for buy and sell side clients is changing. There is an ever increasing need for collateral management services to provide holistic solutions across CCP and non CCP cleared derivatives, across bilateral repo as well as a need to provide collateral transformation in order to assist clients in meeting their obligations to the CCP. Regulation will change the way collaterisation of non vanilla derivatives occurs.

de Schaetzen: The emergence of CCPs will have considerable effect on collateral management. For many years now, CCPs have given their members the opportunity to pledge securities as collateral for margin management purposes. Some CCPs are working with triparty agents to help their members optimise their collateral usage. More recently, CCPs in Europe, such as LCH.Clearnet, have expanded their repo products to include repos in collateral baskets. This innovative service is intrinsically linked to collateral management as the selection, transfer and management of the collateral is outsourced to triparty collateral management platforms.

In the securities lending markets, the business case for CCPs has still to be confirmed, but progress is being made and new providers of non-cash securities lending solutions are coming to the market. These providers are also leveraging triparty collateral management platforms.

And, of course, CCPs will play a crucial role in the derivatives business. As derivatives trading moves from the OTC market to exchanges, there is little doubt about the future importance of efficient collateral management to manage derivative trade exposures. New regulations will only increase the demand for and use of collateral.

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All these trends confirm the increasingly central role that collateral management will have in our future financial markets. This will be most evident in the evolution of triparty services as an integrated part of the CCP collateral management process.

Laurent: CCP for OTC products (and more precisely new regulations for OTC products) will increase collateral and margin requirements. Collateral related services such as enhancement & segregated accounts will be needed. Collateral quality will also be something to look at, since strong eligibility constraints will occur.

Wingate: Clearing derivative trades through CCPs was a requirement introduced by regulators to reduce counterparty risk post financial-crisis. However the impact of this on firms is that the collateral departments will be faced with an increase in the number of processes involved: more agreements, more margin calls – more costs, and firms are turning to technology to facilitate these demands.

A contributing factor to the perceived increase in volumes will be the requirement for firms to use more than one CCP (as no one CCP clears all products) and some counterparties can't clear through CCPs. Both these factors will result in bilateral relationships remaining.

Clearing derivatives through CCPs will further increase margin-call activity with the emergence of intra-day calls. Bi-lateral calls between counterparties have historically only ever been subject to one margin call per day.

The amount of collateral that firms need to pledge will further increase as CCPs will all require independent (up-front) collateral in addition to variation margin. At present under a bilateral agreement, interbank and pension fund relationships do not typically pledge independent collateral. As CCPs evolve the associated increase in funding requirements will make collateral optimisation even more key.

If the trade is not centrally cleared firms will face more rigorous margin and capital requirements by the regulator – to further discourage bi-lateral collateral relationships.

Further complications arise when clearing members act as brokers – they not only face CCPs on behalf of themselves but as they are clearing trades on behalf of their clients they also need to call associated collateral from them. Therefore from a broker's perspective the ability to provide efficient post-trade reporting and clearing services to the client remain key.

Scherff: It creates the danger of a complex black box calculation of margin. One can not check margin calculation of the CCP. Also the accepted collateral for a CCP in combination with Basel III could be an issue.

Morosini: A big effect - actually it has already started. We see, for example, in our tri-party collateral management service a lot of business now flowing to CCPs, such as margining for on exchange derivatives but also for OTC derivatives and repos essentially. The collateral basket trading such as the LCH GC baskets or the Eurex GC Pooling are linked to our collateral management engine and we are now talking of business peaking at the €200 billion mark. We are also very supportive of the Eurex CCP lending initiative that will also change the way securities lending is done where again the efficiency of triparty collateral management will play a major role.

Rozental: Banks and services providers will enhance their collateral management services to support more sophistication in needs and better reactivity. They will also have to provide their client a full cross-margining service to cover their risk.

Milner: A move to CCPs will have a significant impact on the collateral management as a whole, although it will kick in for some products sooner than others. Rules for margining will be governed by the CCP, and the type of bi-lateral margin 'negotiations' that takes place now will be a thing of the past. In addition, most CCPs will have a conservative view on acceptable collateral, and the move to CCPs will therefore increase the cost of collateral on the underlying trades and reduce liquidity in the market. The effect will be felt most keenly in the OTC derivatives market, where mandatory clearing for vanilla trades will significantly increase overall collateral requirements for all market participants.

SLT: Is collateral management being consolidated across the business or is it still operated on a silo basis for each business area?

Scherff: There is overlap but due to legal structures, many silo structures still exist. Also to avoid disputes on securities lending and borrowing exposure one would avoid combining this with CSA collateral management.

Morosini: In a recent study we conducted with Accenture across 16 universal and investment banks, we found out that most of the collateral fragmentation is internal and due to business silos. As a market infrastructure, we believe in interoperability and we will also continue addressing market fragmentation on a global basis to provide an efficient usage of collateral across time zones. Addressing internal fragmentation and the very territorial attitude some could have towards "their" collateral will be naturally challenged by organisations as regulations and as the need for better collateral optimisation increases. We have already seen many firms adapting a group wide approach towards collateral management, exploiting all the collateral pools available within a group across different entities in different countries. We believe that the executive management of firms will more and more decide that collateral is a priority resource for liquidity management and quickly see decisions giving power to liquidity and collateral managers to mobilise collateral across the firm breaking any existing silos.

Wilson: Some firms are still operating on a silo basis but we have seen others create a centralised funding solution across all financing functions, to maximise the internal optimisation of collateral and funding.

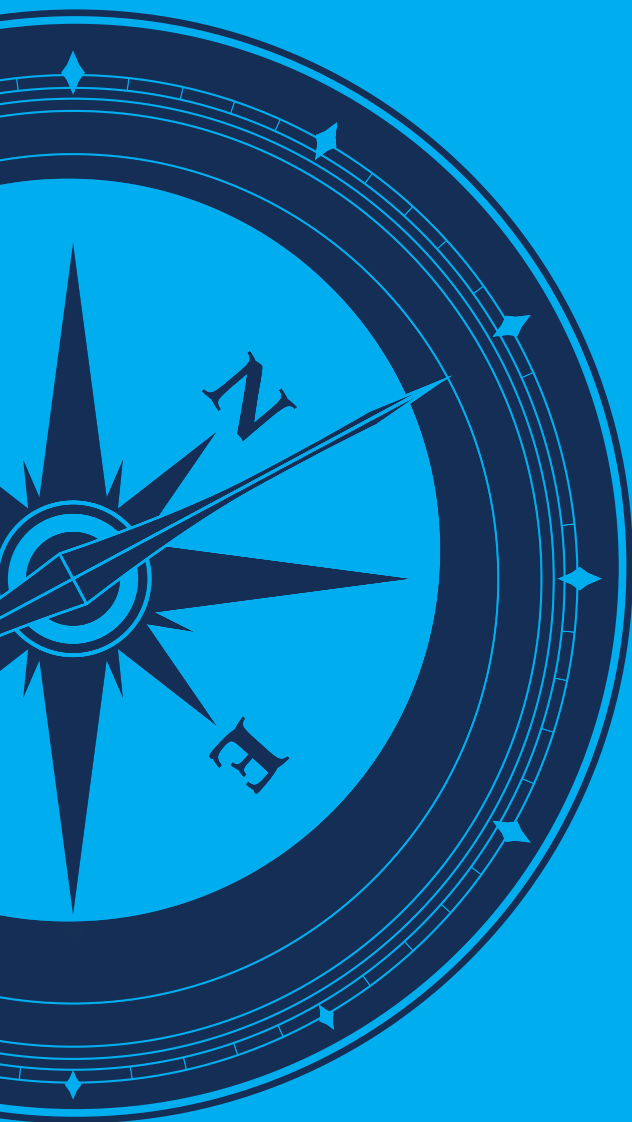
de Schaetzen: Over the past few years, many firms have understood the benefits of managing all of their collateral needs under the responsibility of a single team. Growing demand for collateral when collateral resources are becoming scarce is driving firms towards the same conclusion: centralise the collateral management function.

From its place in the corner of the trading floor, collateral management is now a strategic discipline for many institutions. Triparty collateral management agents are continuously broadening the array of services on offer to make it as easy as possible for clients to outsource their collateral management needs for multiple types of transactions. Thus, clients can access triparty services for their repo and securities lending activities alongside services for open market operations with central banks and derivatives – all from the same service provider.

However, the situation within the banking sector is imbalanced in that some banks have invested in strong and scalable collateral management capabilities, working closely with triparty agents, while others will need to quickly build or outsource this function to remain competitive in such a fast-moving market.

Laurent: With the emergence of the new regulation, we think that some synergies should be found across different business area (third-party custody accounts with middle-office function)

Wingate: Historically, business lines within financial institutions developed at different times creating silos for each business. However as firms began to consolidate their collateral assets to improve liquidity and reduce funding, synergies between the ISDA derivative, GMRA repo



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and GMSLA securities lending business processes became apparent, leading to a desire to process them together for operational efficiency.

COLLINE's flexible workflow focuses on these synergies and makes it possible to consolidate the collateral management operational process onto a common platform where a firm's entire collateral inventory can be accessed.

Dispensing of silos means that master netting (one call per counterparty across all business areas), which is not a new concept but one that has in the past been difficult to achieve across silos, can now be achieved – reducing calls and associated activity.

COLLINE master netting functionality enables increased client service by allowing convenience margining.

Using a single collateral management platform also provides credit risk managers with an accurate and consolidated counterparty risk profile across asset classes – without the need for them to collate information from multiple systems, which also facilitates consistent management and client reporting.

If ISDA, GMRA and GMSLA collateral agreements are all managed out of COLLINE by one department then why not consolidate these three margin calls into one master call? That is the next challenge for bilateral agreements and something COLLINE is equipped to support.

Rozental: Today the trend today is to consolidate collateral across different asset classes and different business entities.

Milner: We are seeing a big drive to remove the silos in a bid to enhance collateral optimisation. However, this can be a rather slow process because it may require organisational changes that take time. This will, of course, also have a significant impact on the technology solutions used. Some point solutions can handle collateral management for specific silos, but not many can support the cross-product approach that is required for an enterprise-wide solution.

SLT: How important is automation and technology within collateral management?

Wilson: Technology and automation are critical to keep in step with all regulatory and client demand changes. Our Global Collateral Engine provides an end to end, enterprise wide collateral management solution to our clients. We see greater globalisation of collateral, greater demand for optimisation tools and consistent with this we have developed the afore mentioned Global Longbox and External Longbox functionality to enable our clients to more effectively manage their holistic collateral requirements. We have also been developing more tools to streamline the onboarding process and improve the speed and ability to provide greater customisation and granularity. Automating collateral management or outsourcing to a tri-party agent removes the administrative burden of managing many day to day operational issues. It enables a broader oversight of risk and credit and facilitates the use of more sophisticated collateral testing, therefore increasing volume without an increase in head count.

de Schaetzen: The complexities inherent in efficient collateral management, particularly as the range of transactions requiring collateral continues to expand, demand expert use of technology to automate and standardise as many processes as possible. With the growing volumes of collateral movements we conduct everyday, automation is essential to fulfill our obligations to clients while giving clients the room to grow their business with us even further.

Moreover, the substantial investment required to build state-of-the-art collateral management facilities is pushing more and more firms to outsource the function to a neutral agent. As a result, these firms will be able to focus on more added-value and profit-oriented aspects of their business.

Laurent: Automation is crucial for reconciliation. State-of-the-art pricing systems are also essential to value complex OTC products

Wingate: Firms will be unable to meet market initiatives and/or new regulatory requirements, such as those in the Dodd Frank bill, without using technology to automate the existing processes which are largely manual and subject to human error.

Inefficiencies in the collateral management process impact a firm's exposure in the event of a counterparty default, funding, P&L, reputation risk and regulatory compliance – these can be addressed by automated workflows with audited and controlled processes.

As volumes increase, there's a danger of risk transference where in trying to mitigate counterparty risk, institutions create operational, reputational and regulatory risk because they have inadequate technology in place.

A high degree of automation can be quickly achieved when implementing COLLINE's considerable STP capabilities, which minimises risk. STP allows for data quality and completeness checks – enabling the collateral team to automate the majority of processes and concentrate on exceptions that require personal attention.

The collateral management process requires data from many sources - but one of the challenges has always been to quickly and accurately collate this data to produce a margin requirement.

COLLINE supports multiple data feeds from internal and external sources that can be scheduled to run at set times (when complete: the earlier the better, on a daily or intra-day basis). Margin calls can be automatically sent as soon as possible to ensure your call is given priority in the event of a default. It's even possible for the collateral manager to send calls from an iPhone. Once the calls are sent, COLLINE's flexible workflow controls the rest of the margin call process and the integrated dashboard displays the real-time status of each call.

Scherff: Collateral management remains a very manual process, but if you want to optimise your collateral you have to automate.

Morosini: We have offered triparty collateral management since 1992 with the launch of the first European triparty repo service. Since then we did not stop enriching our system with new features up to the point that it has now become one of the most sophisticated collateral management systems on the market.

Offering real-time collateral allocation, substitutions, margin calls, re-hypothecation and settlement is something you cannot develop from one day to another. The more risk managers look at modelling their business the more demanding they are in terms of eligibility criteria such as concentration criteria on a multiple of asset classes, sectors, countries, ratings etc. Collateral givers are willing to have their collateral optimised and according to their rules and priority allocation, following their business settlement flows.

Without automation you just cannot do a proper job. We cannot imagine that any collateral management service these days could only allow for same currency, monthly margin calls, no dividend or coupon while allocated and no substitutions and re-hypothecation rights, this would not satisfy any current market players. With new regulations, collateral optimisation, allocation across time zones and different settlement systems, you have no option than being automated and technology driven.

Rozental: This is key for a good collateral management, specially to monitor intra-day exposure cross asset classes including OTC, managing collateral substitution during the day, capacity to process very detailed reports for risk and regulators... It's also important to have the capacity to optimise cash accounts among the different custodians. To achieve those objectives, the technology is really important.

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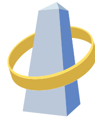

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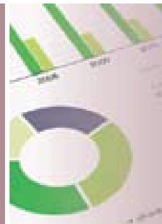

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Milner: Having appropriate technology to address the new enterprise collateral management requirements is key. As previously indicated, the breaking down of specialist collateral management product silos, the move to proactive management of collateral, and the drive for asset optimisation all require systems to support extended functionality that is over and above what many point solutions can do today. Further automation of processes such as electronic margin call messaging and dispute management also require technology support. Most firms recognise that investment in robust and flexible solutions is necessary in order to fulfill the new collateral challenges in today's market.

SLT: Are you seeing an increase in the use of standardised collateral management agreements in the emerging markets of Eastern Europe and South America?

Wingate: Helen Nicol, director of COLLINE at Lombard Risk sits on the ISDA collateral working group, which is encouraging standard agreements (Credit Support Annexes). Standard CSAs will remove ambiguity in collateral management terms and streamline related process. Once the market has agreed on the format, it's expected that emerging markets will adopt the new 'Standard CSA'.

The European Repo Council has also looked at standardising the GMRA repo document which should be adopted by emerging markets.

COLLINE's flexible collateral agreement business rules enable standard AND non-standard agreements to be supported.

Morosini: Yes, we see more customers willing to sign standard agreements such as the GMRA and GMSLA or the ISDA without any issues. On top, they have no problem signing our collateral management service agreement (CMSA) as the business is already more international and across continents. We have a privileged partnership now with Cetip, one of the Brazilian CSDs, to provide collateral management services to them and their customers to cover OTC derivatives contracts. This was done with both industry contracts and local contracts but with standard international terms and conditions.

Rozental: Not really among our current clients however this could happen in the future

Wilson: We see collateral agreements in these markets contracted under US or UK law. We also see an increasing need for local jurisdictional requirements that involves the use of collateral "locally" and under local law giving rise to substantial research and due diligence in order to ensure that collateral can be perfected under local law.

Milner: As a solution provider, it is important that SunGard maintains support for market standard agreements and incorporates any changes as they arise. Our customers are successfully using our solutions to manage business in the emerging markets in Eastern Europe and South America. However, we are not in the best position to comment on the prevalence of use of standard paper.

SLT: What do you think the future holds for collateral management?

Wilson: We are very positive about the outlook. Over the last few years, there has been a positive increase in the use of collateral across derivatives, securities and repo. But there has been a considerable divergence in client requirements as customisation has become commonplace.

Clients are increasingly looking across their balance sheet to identify alternative forms of collateral that can be used for financing. In February we announced the ability to accept physical gold on behalf of lender clients as collateral to satisfy securities lending and repo obligations.

de Schaetzen: The future for effective collateral managers will be bright, as collateral management has now become closely integrated with liquidity management. In the future, clients will select the service providers that demonstrate superior collateral management skills. Service providers, on the other hand, must offer a one-stop service to help clients cover exposures arising from multiple types of transactions and help clients pool collateral held in various locations.

Laurent: With global leaders aiming to reduce systematic risks, we believe collateral management will become more tightly regulated.

Wingate: It is clear that collateral management is now a key focus area for financial institutions.

There is increased scrutiny both from the business and regulators on inefficient processes so we can expect to see more rapid change and development in these areas.

We talked about optimisation, CCP and master netting above and we can expect to see ISDA standardising collateral agreements (CSAs) and hopefully the ERC and ISLA will follow suit.

ISDA are also finalising procedures to govern the way firms resolve margin call disputes (ISDA Dispute Resolution Protocol - DRP). Firms will have to adhere to the DRP and technology will play its part here too.

COLLINE has a dedicated "Dispute workflow" to support the DRP

Margin calls are generally communicated to clients via email but because of ever- increasing volumes and the desire for more automation, Electronic Messaging instead of email looks to be the way the market is heading.

COLLINE has been designed and developed to support Electronic Messaging once the market is ready to go-live.

Scherff: We are going to see further automation, the growing importance of CCPs and liquidity optimisation

Milner: I think we are still in the relatively early days of big changes in the collateral management space as more firms adopt an enterprise wide approach in order to hold down collateral costs and minimise the impact of additional collateral demands on liquidity. Many of the large sell-side firms have been focusing on this area for some years, but now this challenge is at the forefront of the minds of the management at many different types of financial market participants. No doubt there will be many more roundtables, conference sessions and internal projects as firms seek to overcome these challenges and adjust to increased demand for effectively managed collateral.

Morosini: We have been offering collateral services since 1992 and for the first time we believe that we are at the crossroads of something big for the secured financing industry. Our collateral under management continues to grow exponentially - needless to say, the crisis has accelerated a trend that was already on the up side. Regulations and the CCP franchise will continue driving the growth of collateral management but now not just in Europe or in the US but on a global scale. The recent European and US debt crisis and the stock exchange massive fall are not helping restore trust amongst market participants. This is unfortunate because the lack of trust will continue and increase costs; but fortunately, it will push collateral even more to the centre of any future financial transactions going forward. How you manage and optimise your collateral, where your collateral is located and how quick you can mobilise it will be the key for a sustainable business for many firms from now on. SLT

The ActivePivot solution

Quartet FS' innovative collateral optimisation solution for real-time analysis and better decision making

A Growing Concern

Collateral management is a growing concern for the financial community. At a specific deal level, collateral pledging evolution can be anticipated based upon market evolution. However, complexity arises from large and growing volumes of collateralised deals to manage. The 2007/2008 liquidity drought unveiled the need to have a clearer and immediate view on collateral availability and requirements to support funding decisions.

Inventory	Corporations	Muni	Fed agency	Fed Govt	Grand Total
Legal entity 1	2,775,934,712				2,775,934,712
Legal entity 2	582,814,262		376,899,556	223,535,044	1,183,248,863
Legal entity 3	3,759,309,088	8,601,816	1,297,214,930	213,894,719	5,279,020,553
Legal entity 4	25,910,169,544	851,493,084	6,623,784,211	3,216,265,225	36,601,712,063
Legal entity 5	212,564,164	49,967,826			262,531,990
Legal entity 6	3,445,946,578	275,496,354	2,784,377,966	8,618,158	6,514,439,057
Legal entity 7	10,183,188,035	5,755,985,567	4,172,686,112	75,021,210	20,186,880,924
Legal entity 8	930,633,046	64,322,859	1,361,925,368		2,356,881,272
Legal entity 9	6,635,520,826	1,057,834,967	6,345,549,561	521,392,387	14,560,297,741
Grand Total	**54,436,080,255**	**8,063,702,473**	**22,962,437,704**	**4,258,726,743**	**89,720,947,176**

Figure 1: Collateral Inventory

It is critical to have a full and detailed view of the collateral portfolio with up-to-date information on what is pledged and available, as well as to be able to have a view on how it will evolve over time. In addition, it is important to understand its behavior under stress tests and other scenarios to better anticipate and optimise pledging.

Quartet FS' Innovative Solution

Quartet FS' ActivePivot™ (www.quartetfs.com) cutting edge technology delivers a full solution for collateral management going beyond calculations and entering the decision making sphere with scenario analysis, stress tests and optimisation algorithms.

In the first instance, ActivePivot's rapid-fire in-memory OLAP cube lets users analyе collateral across any dimension and see how it could evolve over time. ActivePivot takes classic OLAP features to another level of business usability as it is continually updated by market data, rating changes and new trades. Our incremental engine instantaneously pushes these new facts into the cube. Calculations are made on-the-fly based on the latest data sets removing the need for overnight batch updates. ActivePivot can then connect securities lending, funding, investment and collateral management teams together with a live cube reflecting various business decisions in real-time.

Once the basic tool to analyse collateral instantly and intraday is in place, ActivePivot takes it a step further. Users can easily switch data sets and apply different variables to simulate stress tests or other scenarios. Scenarios may also be saved to allow users to select which scenarios they want to view and analyse at any given time.

ActivePivot doesn't stop there. Users can input new trades, inventory changes, rating movements or test specific assumptions regarding-evolution and observe the impacts. The 'what if' capabilities of ActivePivot are unique and provide the insights required to engage in collaborative pre-deal checking.

ActivePivot provides end users with the productivity tool they need. Its powerful analytics delivers business logic with unmatched performance to recommend an optimised solution of securities to pledge, demand or rehypothecate with counterparties.

Quartet FS' ActivePivot collateral proposition is designed to give your business more than just a workflow solution; it provides an interactive intelligent solution based on poweour online collateral optimisation demo at www.quartetfs.com/contact/contact.

	Exposure	Collateral	Collateral Requirement
Bank of Pivot			
Base	-150,860,819	-117,230,341	33,630,478
Base + 200bps	60,293,554	-94,157,077	-94,157,077
Credit Pivot			
Base	598,797	-552,304	
Base + 200bps	240,134	-421,985	
Pivot Bank			
Base	-211,452,200	-172,182,919	-36,179,881
Base + 200bps	12,276,326	152,526,375	512,526,374
Royal Pivot Bank			
Base	-104,563,480	-104,398,836	2,924,756
Base + 200bps	9,156,072	-82,167,813	82,167,813

Figure 2: Scenario Testing with ActivePivot

About Quartet FS

Quartet FS was founded in response to a demand by industries with complex business models and timely decision-making requirements. To date this has seen Quartet FS work largely with the financial sector but its technology crosses many disciplines including risk management, e-commerce, transportation, telecommunication, logistics, and of course financial markets, all of which demand accurate and current information to perform real-time analysis and render timely decisions.

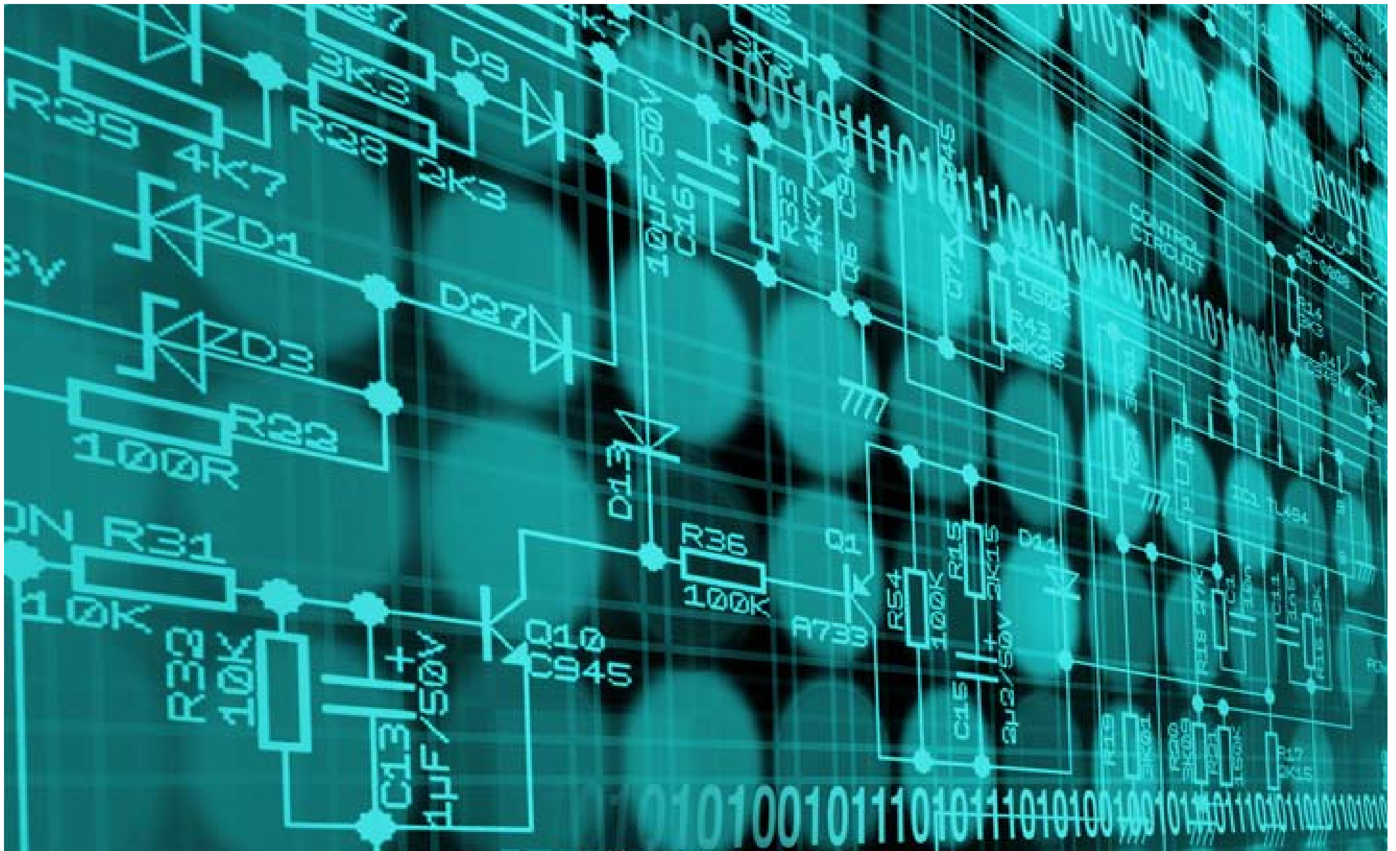
ActivePivot, our real-time, event driven, object oriented analytics platform can be easily and quickly integrated into existing architecture to provide proven, flexible, true real-time answers that are adaptable to meet different business requirements.

Key Benefits:

- Continuous, up-to-date information about exposures, collateral positions and requirements
- Optimise collateral combinations to be pledged
- Evaluate in-depth impact of stress tests
- Understand multi-variant scenario impacts on collateral sufficiency
- Monitor concentration rules
- Measure impact of rating triggers, market movements and rehypothecation assumptions on liquidity and credit risk
- Concurrently analyse exchange and direct counterparty agreement requirements concurrently

Key Features:

- Sub-second projection over time and across multiple dimensions of collateral pledged and available
- Incremental OLAP cube with continuous and instant updating of new facts
- User based customisation and security enabling 'what if' functionality with no impact on other users
- Powerful business logic calculations to model agreements, netting rules and optimise collateral



On message

HSBC's Liam Cahilll tells SLT why the future of collateral management is centred on technology.

INDUSTRY VIEW

SLT: Could you outline the impact that electronic messaging could have on collateral management?

Liam Cahilll: If implemented to its potential, electronic messaging has the power to redefine the complete industry business model, offer increased automation/efficiencies and an opportunity to explore a complete interoperable solution for collateral management.

The immediate benefits centre around the reduction of manual effort in the margin call process, ie, removing the dependency on timely email communications and manual processing of margin events through systems - the majority of which have their core development tailored to market needs from five years ago. Not only will there be a dramatic reduction in operational risk with the STP element but this also will allow for a realignment of the primary business focus. Margin exchanges will be confirmed early in the working day (as soon as the slower of the two parties involved have approved their data) – this timesaving is where the industry can further decrease credit risk through the timely exchange of margin and in accordance, reshape what is considered best practice for collateral exchanges:

Early confirmation of margin exchanges provides an opportunity to move away from the standard T+1 settlement convention to same day settlement and potentially offer the facility for further exceptional intra day settlements.

Establishing each collateral relationship in an Electronic Messaging platform provides an opportunity for each party to confirm agreement parameters from a common place – this will clear up any miscommunications over important agreement variables like threshold, MTA, eligible collateral, eligible products etc.

Using an independent secure third party offering to confirm collateral transaction details will, for the first time provide a unique collateral transaction matching reference. There is potential here to use this reference in the physical settlement of the agreed collateral and work towards further automating each movement as far as a real time link between settlement instruction (in-transit movements) to actual settlement.

Independent audit management of each collateral margin call. The 'timestamp' functionality can be used for legal reference when trying to prove notification time issues. It can also prove the efficiency of the agreement and settlement functions within the industry through an independent assessment of the audit trail of the timings.

Having the physical collateral settlements confirmed and saved through a secure third party solution for the first time provides an independent inventory check for collateral balances on a daily basis – this provides the potential to automate the complete monthly interest ac-

crual process. Interest accrual is one of the long standing pain points and provides an additional unwelcome job during the first few crucial days of the business month – incorporating the appropriate index rates into the electronic messaging platform should allow for this basic calculation to not only return a result but potentially complete the entire interest accrual process through to physical settlement.

Electronic messaging is a critical step in redefining an efficient and effective industry wide model which by all admission was largely unregulated prior to the sub-prime crisis of 2008. Successful completion of this part of the 'blue sky' model can act as a powerful catalyst to further initiatives such as a complete custodian offering to the industry and decreasing settlement risk in the industry as much as possible (with potential restructure the housing of all intra-Fed 14 members collateral at a third party, thereby removing all inherent settlement risk).

Successful electronic messaging infers a complete communication between at least two parties through a messaging platform. With the aggressive introduction of central clearing into the derivative market, linking to clearing houses provides an opportunity to complete the collateral exchange on a high percentage of the complete derivative market in as much a STP fashion as possible.

SLT: When it comes to understanding the importance of standardisation and messaging to reduce operational risk through automation what are some of the most common challenges faced and how do we overcome these challenges?

Cahill: The key challenge is not in agreeing that electronic messaging is the correct course of action for the future of collateral management but being amongst the first institutions to align themselves to a particular technology/procedure and in effect stake their reputation on the solution.

The obvious temptation is to sit back and wait for someone else to discover the optimal solution, learning from any mistakes made along the way as well as unnecessary budget commitments – after all there is no regulation around implementing an electronic messaging platform, at this moment and time it is a 'nice to have'. At a time of heightened costing awareness, it becomes a 'risk' to develop towards an unproven solution; something deemed even 'riskier' when the requirement is to complete development is required on an in-house solution.

The decision to build messaging capability should also consider the ability to make any connectivity agnostic – this is an extremely important factor when considering the industry goal of working in an interoperable world.

A lot of the standardisation challenges were addressed through an ISDA published paper on electronic messaging best practices, published in November 2009. The document focused on each step within the collateral processes (margin call, interest and substitution) and their individually related message attributes. Messaging vendors should strive to conform to this recognised document.

There are some challenges are centred on legality of communication – each collateral related notification is covered by a company disclaimer, however this can be overcome by seeking institutional approval to 'house' company disclaimers in the messaging platform and referencing this in each subsequent margin event.

Another question raised was around product code alignment and how this can be standardised to fit the electronic messaging needs of all parties as well as messaging provider eg, collateral system A might report a movement as 'US Treasury, US123456789, 10mm, 5/15/11' but collateral system B might report the same move as 'UST, 123456789, 10000000, 15th May 2011'.

From a technology perspective, each institution will need to undergo their own due diligence and third party vendor approval process – this can prove time consuming and costly especially on an initiative that may fall down the pecking order to onboarding new bank wide business initiatives and implementation of industry regulations.

SLT: How will the move towards CCPs margining impact bilateral collateral management?

Cahill: Again the impact of CCPs to the current collateral landscape cannot be underestimated and for a 'new' process has the potential to dictate a sizeable weighting in the operational flow.

Clearing as a concept removes the individual opinion of margining based on respective institution business models and its management becomes one more of efficient funding management and 'after the fact' reconciliation of positions. What client clearing does is effectively pit the efficiency of each top tier collateral operations department against each other for business. The ability to offer a complete solution from trade execution to clearing, financing and custodial service is completely reputational and makes it essential that each offering does not make any errors visible by the client, in particular in the early days.

SLT: What are some of the yet to be explored untapped opportunities in the collateral management sector?

Cahill: Since the financial crisis the collateral industry has in a sense playing 'catch up' on establishing best practices and implementing regulations so a lot of the potential in the business has had to take a back seat to the former. The majority of people recognise the opportunity to profit from optimal collateral selection and more efficient use of what is already held (perhaps, unknowingly) in inventory. Also in relation to enhancing the balance sheet position is the ability the measure the immediate impact of bringing existing clients positions under the governance of a collateral agreement – this currently (in most cases) provides an untold benefit to the daily P&L.

It is my opinion that the industry as a whole could be more joined up – one of the defining characteristics of the collateral industry is that we are not in competition with each other but simply striving to achieve a best practice. Currently the CIWG is chaired by ISDA (formally the CFG) however this can be also operate to effect at a sub level in order to drive the analysis behind the suggestions/hypothesis derived through the former communication forum.

SLT: Going forward will we see technology continuing to play an increasing role in collateral management and how will this change the collateral management landscape going forward?

Cahill: Absolutely, technology will not only continue to drive the industry but also the nature of the business offering to a larger extent than before. I think we can all agree the collateral industry was to some degree, unregulated and seen very much as a back-office function prior to 2008. The emergence of clearing houses and the aggressive implementation timelines across the various products are telling us that final margin results have to automated, so the next logical step is to automate the process that gets us to that point.

Another notable booking related issue emanating from the sub-prime crisis is the importance of independent amount on sensitive trades – currently, collection of this is owned by the collateral management team, the is an argument that this 'charge' should form part of the initial trade settlement – for this to take effect, it would need a more complete technical link between trading and collateral systems.

The future of the industry is centered on technology especially if we are going to achieve the well advertised concept of 'interoperability' – volumes can only go one way and the strategic answer is not for each institution to hire more heads to spread it out. My opinion would be that in five years we see a near complete STP industry (amongst the Fed 14 at least) facilitated through a team of collateral relationship managers. **SLT**

Changing lanes

4sight Financial Software's sales director Robert Palliser explains how the market has changed in its attitude to collateral

BEN WILKIE REPORTS

SLT: Firstly, can you tell us a little about the history of 4sight and the range of products it provides to the market?

Palliser: The company was spun off from OM Technology in 2003 and historically has been a provider of integrated stock loan and repo systems across all market participant types – direct/agency lenders, niche and global broker dealers etc. Typically, for these institutions collateral management was a function of the trade life cycle rather than a discipline in itself.

Over the last two years, however, 4sight has become far more involved in collateral management as a stand-alone discipline from a collateral optimisation, liquidity management and fee generation perspective rather than as a mere risk mitigant.

If we look back two or three years, traders in many houses were tasked to focus their efforts on P&L generation with only a secondary focus on the collateral management of such trades. In this model, managing collateral was frequently seen as a related but autonomous back office operation.

However, things have changed greatly over the recent past. Our clients are increasingly seeking to optimise their collateralisation processes to ensure that, wherever possible, they pledge the lowest quality non-cash collateral to their counterparts. This allows them to retain their internal liquidity and make use of their access to government debt for firm financing or fee generation purposes.

SLT: Is collateral management still run with a silo-based approach, or is it now a centralised function within many organisations?

Palliser: Historically it was very silo based. This was as a result of company structure and product lines and the difficulty faced in cross product netting. It frequently resulted in different departments within a given organisation having radically different eligible collateral schedules, minimum margin thresholds and operating processes with the same market counterparts.

However, this silo approach is being rapidly eroded.

We are currently working with a number of clients who have decided to consolidate and centralise their collateral management. Their business model is now focused on ensuring the optimal use of collateral across a range of products, including repo, securities borrowing and lending, on exchange and OTC derivatives.

In this respect, the centralised collateral department is effectively acting as the single interface for their organisation with their external counterparts across all relevant products and asset classes. It is also functioning as an internal conduit of collateral to/from a range of departments within their organisation.

SLT: What market trends or characteristics do you believe has caused firms to look at the centralisation of collateral and do you see these strengthening in near future?

Palliser: These are numerous and getting longer by the day.

The Lehman default, the drying up of market liquidity, and the need to make better use of finite resource such as capital and balance sheet have all been key drivers of centralisation. In addition, the desire to better manage counterparty, correlation and operating risk across all collateralised products is integral to any management decision to centralise such activity.

As firms realise there is a significant benefit to bottom line earnings from effective collateral management and optimisation through reducing costs and generating ancillary income they are quick to embrace this decision. The result is that institutions are now actively seeking technology solutions that can support this model.

SLT: Does moving to an integrated approach change the way firms look at the various risks within collateral management?

Palliser: To some degree – yes. The primary risk focus, regardless of operating model, remains the potential for a given counterparty to default and correlation of the collateral to that default. This hasn't fundamentally changed.

However, what is being highlighted via the centralised collateral model is the ability of an organisation to look at its various risks across a range of products and on a portfolio basis. Not just counterparty, but also portfolio, liquidity and operating risks.

In this respect, we have increasingly worked with our clients to model their activities and develop "What If" scenarios that they can run in the collateral management system to see the effect of a pre-determined event. For example, this event could be a counterparty down-grading, increased market pricing volatility, or the general market reluctance to accept a given country's securities or a given asset class etc.

Risk managers within our client firms also want the system to send them automated daily reports to highlight potential warning signs. For example, whether collateral being pledged to them is unacceptable to their own counterparty base, their exposure to a given country or asset class across their combined portfolios, and/or the size of a given collateral holding vis a vis its free float.

SLT: Is there any difference in collateral management within different areas - for example is collateral management different in say, OTC derivatives compared to securities lending?

Palliser: Historically yes, but our clients appear to be taking the best elements from each area and seeking to make them universal.

For example, securities finance and repo markets used to operate with relatively low minimum margin thresholds. They made active use of daily margining and the delivery of non-cash collateral. Conversely, OTC derivative collateral management involved significantly higher thresholds and use of a limited range of collateral. However, it allowed for a greater use of dynamic ratings related triggers.

Now, within the centralised collateral model at least, such variances have become noticeably less marked. We have therefore implemented support for sophisticated eligible collateral acceptability, concentration limit calculation, and haircut criteria, regardless of the underlying product being traded.

This in turn is allowing our clients to transform their collateral management activity – which was previously seen as a primarily operational

task - into a liquidity and balance sheet management function. It is now also a way for them to lower their operating costs and/or generate incremental revenue through a reduction in financing costs or the creation of additional stock loan fees.

SLT: Does this change the human resource required for collateral management and the sales process 4sight undertakes?

Palliser: To some degree – yes, but only in a positive sense.

In the past, the primary function of a collateral manager within an organization was to ensure the successful delivery or receipt of collateral to mitigate that day's counterparty exposure. This often resulted in the unnecessary use of cash and Govt bonds as collateral as they were easy to move on a same day basis in larger parcels than say corporate bonds and/or equities.

Collateral management systems now allow users to forecast their future collateral needs, but also to identify potential shortfalls or surpluses in a given asset class or with a given counterpart. The collateral management focus has therefore been extended from that of exposure mitigation and operational settlement to one of ongoing inventory, liquidity and balance sheet management.

In addition, there is now a good deal of automation in mapping the underlying legal agreements with counterparties. This allows the system to determine the amount, type and quality of inventory that can be pledged to a given counterparty, and to then undertake the creation of the requisite delivery instructions on an automated basis. However, there will be instances on a daily basis where the collateral manager may need to over-rule its inherent logic.

For example, he/she may be aware that a given security is potentially to be sold or is part of a sensitive trading strategy and so not to be pledged. As such, firms require a greater internal knowledge of the source and stability of assets. The ability to immediately drill down on a given security in the system and identify its source and whether a colleague has annotated its potential use elsewhere can help to reduce errors in this respect.

Moving onto the sales process itself, the integrated use of collateral management systems for securities lending, repo, OTC and on exchange collateral management is certainly making the sales process longer and more complicated. This is largely a result of the number of departments involved (traders, collateral managers, risk personnel, operations, regulatory reporting, finance etc.) and the amount of data that needs to be extracted from technology systems for their day-to-day activities.

SLT: Is there a minimum scale a business needs to have before it can optimise its collateral? Can a client use 4sight for its collateral management activities but retain its existing trading and back office systems?

Palliser: Not really. Regardless of size, leveraged trading organisations require the ability to finance their activities in the optimal manner. The retention of cash and high quality Govt assets – previously used as collateral to third parties and/or exchanges – is thus of paramount importance. This applies whether the potential client is an internationally renowned global player or a small regional bank or broker

Collateral optimisation is in itself a relatively easy concept to understand. However, it impacts upon all aspects of an organisation's activities – from its ability to finance its ongoing activities, through to counterparty and market risk mitigation, the control of operating costs, capital and balance sheet. This is equally important regardless of the size of a client and is perhaps best demonstrated by the spread of enquiries we have received over the past eighteen months.

It is also possible for a client to make use of a collateral/exposure management and optimisation system on a stand-alone basis and merely integrate data feeds to/from its existing trade capture and settlement instruction delivery systems if required.

Typically however, projects involve the development of a tailored solution that also makes use of our securities lending & borrowing and repo modules to closely integrate with the collateral management system.

SLT: Is this centralisation and optimisation of collateral as relevant and/or prevalent in North America, which has traditionally preferred cash?

Palliser: Previously, the US model has been to lend stock on a callable basis against cash collateral.

However, since Lehman, most US based agent lenders now operate both cash and non-cash collateral programmes. US broker dealers are also making use of non-cash collateral in order to minimise their balance sheet usage and in respect of their international activity. Furthermore, the larger North American broker dealers have substantial OTC client driven and/or proprietary derivative books that they need to optimally collateralise.

As such, we are fielding more enquiries from North America than from any other part of the world. We have therefore broadened our scope to look at the collateralisation of ETF creation and FX forwards in the recent past to complement our clients' traditional OTC derivative activities.

SLT: How much is regulation changing the way institutions manage their collateral?

Palliser: The effective use of collateral – in addition to enhancing the bottom line and mitigating risk – can also improve an organisation's use of balance sheet and capital.

For example, we are currently developing the ability within our system to novate bilateral repo trades when passed to a CCP. This will support our clients as they move their activity to the CCP over time in order to take advantage of a reduced risk profile, enhanced netting capabilities and lower capital usage.

SLT: How automated is the collateral management and optimisation process within the 4sight system?

Palliser: Very - counterparty exposure is automatically calculated on a real time basis as a result of trades having previously been booked into our SBL or repo systems. Alternatively it is fed in automatically for OTC derivative transactions. The user can then access his inventory and – as his legal agreements have already been mapped into the system –allocate his collateral in line with the prevailing eligible collateral, margining and concentration rule-sets.

Furthermore, we are currently enhancing the system to allow a user to run "synthetic" allocations - based on the above and his available inventory. This can be carried out on an intra-day basis to identify any potential collateral shortfalls or surpluses at contract, client, or portfolio level.

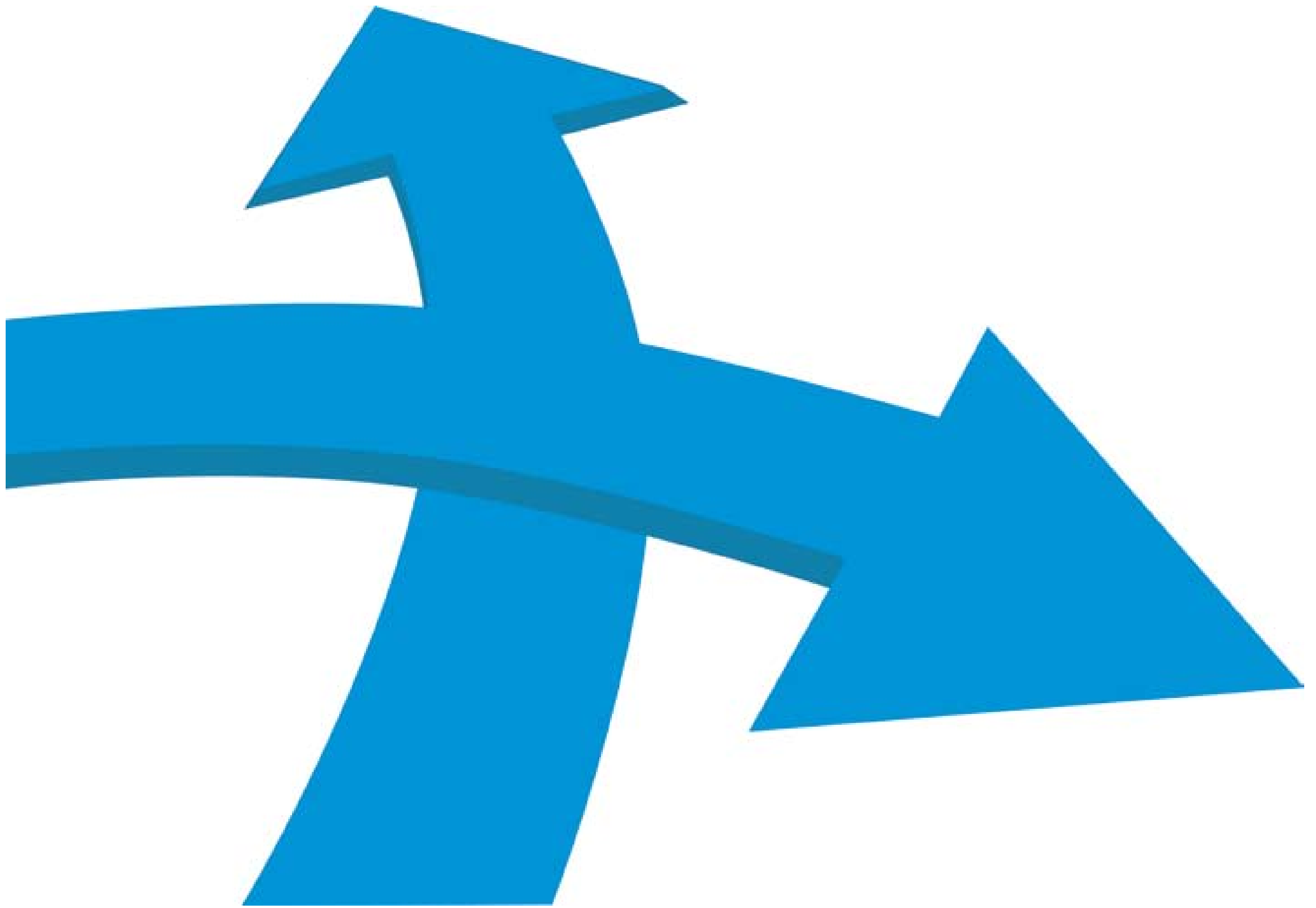
Once satisfied that the optimal use has been made of available collateral, the user can automatically undertake the physical allocation of securities. The system also sends the requisite settlement instructions and confirmations to each of his counterparts. This is across all commonly utilised asset classes, product types and settlement routes.

SLT: How big a transition is it to make from the old way of doing collateral management?

Palliser: Probably far less than market participants would initially imagine.

Firstly, there are no changes to the underlying legal agreement, merely a more detailed mapping of its core terms and a far enhanced analysis of the user's available inventory.

The biggest change is probably in the user mind-set, with collateral managers now becoming an integral cog in the management of a firm's liquidity, balance sheet and capital. Whilst operational and settlement knowledge remains vital, collateral management systems now allow users to make greater use of technology to assist them in their decision process. **SLT**



Diversification rules

J.P. Morgan's Paul Wilson assesses the benefits of collateral diversification in securities lending programmes

SPONSORED ARTICLE

One of the key components to risk mitigation in any securities lending programme is collateral. In managing a securities lending programme, both the collateral, including the haircut and marking to market the loans and collateral on a daily basis, as well as the combination of counterparty quality and collateral mix, are highly important. But what is the current market trend for collateral?

Notwithstanding the market turmoil and issues raised by the Lehman default and ongoing credit crisis, we have seen a continued recovery in loan volumes over the past three years. Demand however remains suppressed despite a healthy appetite from beneficial owners to lend securities, in fact we have seen a positive trend in new beneficial owners lending their securities for the first time. This lack of demand is in part driven by over supply in the fixed income market, lower hedge fund activity, deleverage in the equities market and a changing and uncertain regulatory environment that is impacting all market participants. Regulation, in particular, is really changing and driving the way in which borrowers manage their balance sheet and capital, which in turn is driving the cost of borrowing and the manner and way in which borrowers collateralise loans from beneficial owners. Basel III, Dodd Frank, EMIR and FSA Liquidity Rules are just a few of the specific regulations that are impacting the borrower side of the industry. This is manifesting itself in the ways we see different borrowers prefer to collateralise loans. This, in turn, is critical to understanding the forces that are driving demand for collateral itself as well as securities to cover various trading strategies.

If we look at J.P. Morgan's overall program (see chart), cash collateral now accounts for approximately 50 per cent of all collateral. However since 2008 the largest growth has been in equities, while overall there is a more balanced breakdown of the types of collateral we have been receiving.

As noted above this has typically been driven by the individual funding needs of borrowers. Additionally, we have seen many borrowers undertake internal collateral/funding optimisation which has led those borrowers to display contrasting preferences as to the type of collateral they wish to provide. This is in contrast to the market several years ago, where we tended to see market shifts in waves with either cash or fixed income being more or less favourable.

Today, there is no such consistent shift – each dealer has clear and distinct preferences to the type and term of collateral they want to deliver. It is possible that for the same transaction, in terms of collateral and duration of the loan, four different dealers will have four different requirements. For example, term loans versus cash collateral, open loans versus equity collateral, or term loans versus fixed income collateral are just a few examples of the different types of current loan and collateral structures.

The impact of these trends can be quite significant for beneficial owners. Balances can be built, or lost, simply because of a borrower's collateral requirements. As we have stated previously, while collateral is a prime risk mitigant, a beneficial owner who is able to accept a broad range of collateral types, will benefit significantly in terms of balances and revenues.

The impact of these trends can be quite significant for beneficial owners. Balances can be built, or lost, simply because of a borrower's collateral requirements

The dynamics between the correlation of the underlying securities on loan and acceptable collateral is fundamental to understanding that collateral flexibility does not imply increased risk. On the contrary, the benefits of diversification have long been recognised, this holds true for a portfolio of collateral as much as it does for a portfolio of investments. Risk can be reduced by diversifying collateral to several asset classes, differing or by higher margin levels. Equities are a good example, whereby the acceptance of correlated collateral, for example equities against equity collateral, enables beneficial owners to benefit from increased utilisations and spreads. Borrowers who are actively trading in equities will pay a premium to use their own long positions as collateral against borrowed positions and benefit from higher haircuts (7-10 per cent), and highly liquid and easily priced collateral.

Accepting these concepts is one thing, but diversification in collateral requires more resources and technology, for two reasons. First, diversification requires appropriate reporting to clients about the nature and whereabouts of the collateral that is being accepted and second, diversification of collateral needs to be monitored, marked accessed, liquidated and realised in a rapid time frame if required. The Lehman default proved that securities lending processes around these events actually worked, the new landscape and the rise of collateral trading techniques to optimise balance sheet usage has renewed the challenge to ensure process, procedure, documentation and controls are sufficiently robust .

Without transparent reporting beneficial owners are limited in their ability to satisfy their internal due diligence and governance requirements that enable them to broaden the scope of acceptable collateral. J.P. Morgan provides a wide breadth of client reporting through Views Portfolio Reporting, with key functionality including report customisation, data drill-though, flexible output formats, and alternative delivery options (e-mail, auto-save, file ftp, auto print). The reporting function also provides a scheduler feature that allows data and time dependant reporting events to be created and automatically e-mailed to recipients.

The Securities Lending Dashboard has been introduced to allow beneficial owners to view all key reporting parameters and information in a single customisable view. The continued investment in reporting enhancements for beneficial owners has been important in assisting beneficial owners with evolving compliance checks in a changing market environment. Historically, the oversight of the securities lending programme had been carried out as a back office function but this has progressed to a front office and risk and compliance function. Transparency of collateral parameters has clearly been an integral part of beneficial owners' additional oversight of the program with the following reports typically being interrogated:

- Daily Securities Collateral Detail – detailing the security collateral allocated to the lenders' loans
- Investment Daily Accounts Statement – detailing the lending client's collateral investments with key features including settled and pending investments, ratings and maturities including a summary providing sub totals for various categories with weighted yields
- Investment Mark to Market – proving the latest market value of investments within the lenders cash collateral investment portfolio
- Reverse Repurchase Collateral Detail – providing underlying collateral on the repo buy counterparty.

J.P. Morgan has always offered segregated cash collateral investment guidelines which allow the lender to tailor the guidelines according to their risk parameters and appetite. This flexibility has allowed lenders to tailor their investment guidelines according to a changing environment, for example, amending maximum tenor, quality guidelines, products and concentration guidelines.

As noted, collateral flexibility ensures diversification of collateral and borrowers while aiding optimum performance. The securities collateral schedule focuses on high quality, diversification and concentration of non cash collateral. Securities collateral includes US government and agency debt in addition to minimum AA- rated Eurozone, OECD and UK Government debt. Beneficial owners also have the ability to add equity collateral to their schedules where appropriate.

In the same way that borrowers have disparate collateral preferences so too do clients. The trend has been for a greater desire for customised collateral schedules, particularly in the central bank, sovereign wealth and insurance sectors. Traditionally agency programmes have adopted pooled collateral techniques to maximise efficiencies and the scalability of their models. This still holds true, but in today's environment there is a clear need to offer customised solutions for specific trade types.

These forces have consequently fed the demand for the need for a tri party collateral agent who can manage, clear, and rehypothecate collateral among many different counterparties in the market. A tri party collateral agent amongst other services, can hold securities (security, safekeeping and reporting), mark to market, optimise the use of long inventory, test for collateral eligibility and issue margin calls. Because the tri party collateral agent acts as a centralised exchange between lenders and borrowers the benefits include but are not limited to:

- Reduced costs for both lender and borrower as back office and IT are effectively outsourced.
- Lender and borrower can invest in core business instead of collateral management.
- Scalability and ability to trade at higher volume more frequently.
- Diversification in acceptable collateral as tri-party agents handle a much wider variety of collateral instruments than would typically be the case in a bi-lateral arrangement.
- Standardisation; collateral agreements and protocols are typically dealt with in industry standard agreements across the whole spectrum of collateral givers and receivers helping to eliminate inefficiencies and uncertainties that can exist due to variances in legal interpretations.

The use of an organisation with the depth of resource to invest in efficient collateral management is a prerequisite to positioning a lending programme to enable its optimum performance in today's securities lending and collateral trading market. **SLT**

Paul Wilson
Managing director, Financing & Markets Products
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Taking the strain

Banks are rethinking their collateral management, writes SunGard's head of strategy Jane Milner

EXCLUSIVE

A huge liquidity strain and increased demand for collateral assets have made collateral management a critical component of bank's trading activity. An enterprise-wide approach to collateral management can help banks optimise their collateral inventory and generate revenue as well as reduce costs

Collateralisation has traditionally resided in a bank's back-office, where it has been used to secure financial transactions and to mitigate credit and operational risks. The Lehman Brothers default and the ensuing financial crisis, however, have ensured that collateralisation swiftly moved to the top of banks' agendas.

While its use as a risk mitigation tool has not essentially changed, post-crisis changes to the conditions around collateral have forced banks to reconsider their whole approach. With the demand for collateral assets increasing, and a widening of funding spreads due to liquidity constraints, collateral optimisation has become a very important issue for many institutions. This has forced many institutions to look more closely at aligning their collateral teams with their trading desks. This closer alignment highlights the evolving role of collateral in not only reducing counterparty credit risk but also controlling the cost of trading, revenue generation, and derivatives pricing.

But market changes such as the mandated use of central clearing for over the counter (OTC) instruments and a greater awareness of counterparty risk have increased the cost of using collateral and curtailed the ability to raise revenue from its reuse. In the wake of these pressures, it is more important than ever for banks to develop an enterprise-wide collateral management programme that offers the benefits of asset optimisation and the assurance of a robust risk management framework.

The rising cost of collateral

When Lehman Brothers descended into Chapter 11 bankruptcy, it left a trail of defaults in its wake and a market full of nervous investors unsure of the creditworthiness of their closest counterparties and the value of their own assets. This unease was especially evident in the less regulated environs of the over-the-counter market.

The market's participants reacted to the unease by placing far greater demands on collateral requirements. The increased demands lead to more frequent collateral calls and a move towards 100 per cent collateralisation. In addition, global regulators have responded with new rules (Dodd-Frank Act, EMIR, MiFID II, CPSS IOSCO) that introduce central counterparties (CCPs) in an attempt to reduce systemic risk and bring transparency to what are perceived to be opaque practices of the bi-lateral OTC world. And while this in theory has greatly reduced counterparty and credit risk, the collateral process involved with central clearing has created a huge liquidity vacuum for trading firms.

Adapting to a CCP environment involves direct costs through operational and system changes, as well as paying to be a clearing member or trading through a clearing broker. However, the added costs of collateral are also considerable. Clearing members will now have to pay initial margin on transactions, which involves a greater amount of collateral than a conventional bilateral OTC agreement (many clearing members pay no initial margin under bilateral OTC agreements). End clients may also have to pay higher initial margins under CCP arrangements if margins are segregated versus omnibus account structures. In addition, as there is no single global CCP that covers all jurisdictions and products, netting efficiency under a CCP arrangement is reduced as compared to bilateral OTC arrangements, further fuelling an increased demand for collateral assets.

As well as higher demand for collateral assets through increased initial margins and inefficient netting sets, CCP arrangements will limit the level of rehypothecation of collateral. Under traditional bilateral OTC arrangements, institutions often use the practice of rehypothecation as a source of funding collateral. Under CCP arrangements, collateral posted would be frozen (estimated to total around US$1 trillion), putting further strain and additional costs on funding and sourcing collateral assets. This is exacerbated by provisions in the Dodd-Frank Act that allow end users to request segregation of initial margins for bilateral OTC agreements.

In addition, the eligibility criteria for acceptable collateral have tightened considerably. For most CCPs, acceptable assets will be restricted to cash or high-grade bonds such as US Treasuries or eurozone securities.

Collateral liquidity is also addressed by Basel III, further increasing demand and costs for collateral assets. The updated Accord mandates that banks must have collateral management policies and stress models in place to monitor, control and report on the risks they are exposed to by various margin agreements and the use of non-cash collateral. These risks relate to the changing market value of the trade portfolio and the underlying collateral covering the portfolio. It also highlights the importance of monitoring and controlling the concentration risk of using particular asset classes.

The Accord is particularly concerned with the liquidity implications inherent in collateral agreements from downgrade triggers, rehypothecation practices and the use of non-cash collateral. It therefore requires that banks employ scenario stress testing to their collateral agreements (eg, a ratings downgrade for the bank) trade portfolios and underlying collateral assets, with a view to project future collateral movements and values and ensure that sufficient liquid asset reserves are maintained to cover these projected collateral obligations under stressed market conditions.

One effect of the rise in collateral costs is that banks will pay more attention to the cost of collateral at a transaction level pre-deal as part of pricing calculations. So rather than the general cost of collateral being absorbed by the bank at a group-wide or division-wide level, banks will allocate these costs to individual trading desks. In order to do this, banks will need a much more granular level of reporting and be able to drill down to each and every transaction and the collateral used. It would then be possible to see which desks are creating which exposures. Just as credit valuation adjustments (CVAs) are used to capture the credit risk implications of individual trades, banks are also looking to factor in the collateral funding implications of those trades. The collateral funding costs can then be built into the pricing of the trade and ultimately into the decision regarding where to place a trade.

Collateral optimisation

As outlined above, the post-crisis pressure on balance sheets and squeeze on liquidity is acutely apparent in the industry's use of collateral. Consequently, banks are now much more demanding of their collateral management processes. They want to see what collateral is available for each and every business line, and they want to assess the relative costs and

quality of all collateral in order to best match the available assets for each transaction.

This is commonly referred to as collateral optimisation. Extracting the maximum value from available assets has always been a worthy objective. However, banks have not always actively pursued it or used the assets given over for collateral purposes in the most efficient way. In some cases, the quality of collateral has been higher than required, or expensive forms of collateral were used when cheaper alternatives were available. Other times, long collateral has been left to lie dormant rather than be reinvested for trading purposes such as securities lending and repo or through rehypothecation to satisfy the firm's own collateral posting obligations. Financial institutions are now looking to address this situation.

The first step to achieving a more optimised usage of collateral is to establish a global, holistic, real-time view of a bank's inventory of assets. This will provide an up-to-date list of available collateral for every business line's funding requirements. The firm must then be able to match this single view of available assets with a single view of the various collateral requirements across all business lines and the relative eligibility criteria of this collateral for all counterparties across all business lines. Collateral optimisation algorithms (for example cheapest to deliver) can then be applied to the pool of available eligible assets when pledging collateral in a transaction to determine the best possible combination of assets to use as collateral from both an economic and an operational perspective.

This enterprise-wide view of the collateral function provides many obvious benefits – a firm-wide view of assets for trading and collateral, a cross-enterprise holistic view of counterparty risk, reduced operational risk, increased visibility, better liquidity management, more effective stress testing, collateral optimisation, funding cost control and management, and revenue generating opportunities. But it also presents a number of operational and organisational challenges.

Many financial institutions are constructed as composites of multiple silos, each with its own separate cultural, operational, and technological identity. Melding these often conflicting properties into one firm-wide system is therefore a complex task and must be approached realistically, through gradual steps rather than one 'big bang' initiative.

Flexible technology

Once the business processes themselves have been adapted to work in an enterprise way rather than across silos, and once the firm has established a single, visible, enterprise-wide inventory of available assets which can be mapped to the list of collateral requirements and conditions, even then there are additional steps that must be taken in order to enable effective asset optimisation and allow active management of collateral to thrive. All of these changes have significant technology implications and will require advanced enterprise solutions to enable them to be effective.

> Collateral management is clearly in a state of accelerated evolution

Banks will require business logic engines that can look at both the asset inventory and the collateral requirements and make intelligent and automated decisions on a frequent basis. The collateral allocation process will need to be linked to the various trading and post-trade systems so that collateral arrangements which accompany every transaction can be swiftly acted upon.

The ideal system offers a suite of fully integrated and flexible modules that offer specific, detailed functionality for the separate divisions involved in collateral management – be they securities lending, OTC and listed derivatives or repo. Such an approach offers the best way to build a flexible and enterprise-wide foundation for collateral management that will meet a firm's growing requirements, from a centralised inventory of assets through to global risk management.

The benefits

An improved, enterprise-wide collateral management programme will produce sizeable benefits for all counterparties in the capital markets. For the sell side banks and brokers looking to minimise their balance sheet impact and meet the demands for profitability, an enterprise-wide collateral management programme gives them the ability to view all available inventory across multiple asset classes and to fund collateral or trade directly from these positions. Additionally, they can view all counterparty exposures, maximise netting opportunities, minimise collateral pledges and produce comprehensive reporting to satisfy both internal demands and the transparency requirements of external regulators and investors.

Asset managers and institutional investors operating on the buy side are looking for a more efficient collateral management process that will improve risk mitigation controls. An enterprise-wide approach enables holistic real-time exposure management and risk calculations that reflect up-to-the-minute changes in the risk profile of their counterparties. Structured and automated workflow management, standardised across asset classes, will ensure that no collateral calls are missed. The quality of collateral can be verified through a profiling programme of the various eligibility criteria.

For the various intermediaries operating between buy- and sell-side firms, such as prime brokers and global custodians, an enterprise-wide collateral management system must meet their need to service clients more effectively and with increased transparency. Such systems must have a flexible and hierarchical structure to support multiple entities and the different requirements within each one. Simple workflow management and clear segregation between multiple clients are also essential, as are support for cross-netting and transparent and ad-hoc reporting requirements. The collateral management system must also be able to support an intermediary's commercial ambitions by enabling them to offer the solution directly to their own clients on a white label basis, this providing them with the opportunity to differentiate themselves from their competition.

Collateral management is clearly in a state of accelerated evolution in the new reality of the post-crisis world. Rapidly changing regulatory regimes, increased margin requirements and reduced access to short term liquidity mean firms are reassessing how they manage their collateral processes and control the demands made upon them. Taking the holistic, enterprise view is key to creating a coherent response to this new paradigm.

SunGard's solutions for enterprise collateral management

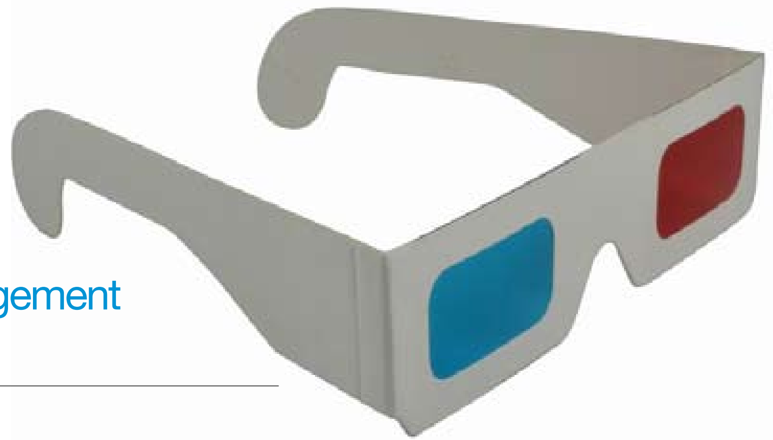
SunGard's solutions for enterprise-wide collateral management combine all asset silos along with the front-, middle- and back-office functionality in order to manage the collateral lifecycle effectively. Only by seeing the whole picture can banks deliver next-generation collateral management that satisfies the needs for risk mitigation while at the same time providing the significant competitive advantage of the infrastructure to support all business lines;

- Combined collateral trading and management
- Single view of counterparty exposure
- Optimal asset usage
- Integrated cross silo transparency and pro cess management
- Algorithmic collateral allocation
- Maximum operational efficiency. **SLT**

Jane Milner
Head of strategy - securities finance and collateral management, SunGard

Moving towards a new vision?

Rule Financial's Alec Nelson and David Field examine the challenge of optimising your collateral management



EXCLUSIVE

Collateral management is now under sharp focus like never before. Historically a support function, it has come to the fore, in part, due to high profile examples of what can happen if you lose control.

New regulations require banks to demonstrate control of their own and their clients' assets, and to strengthen their balance sheets by maintaining higher levels of capital adequacy. However, most banks don't have sophisticated collateral management systems and they are very unlikely to be integrated across the enterprise. Existing collateral management is often manually intensive, time-consuming, error-prone and not scalable.

Many banks manage collateral in business silos: prime services; equity finance; repo and treasury. Recent events have forced banks to introduce new processes and procedures - many of which are highly manual due to the lack of technology – so collateral management departments are stretched even with today's volumes. It is therefore difficult to imagine how they will cope as volatility and volumes increase – many banks have no clear vision of this. A recent report estimated that $2,000 billion of extra collateral will be needed to meet margin demands for Central Counterparty (CCP) clearing. A 'squeeze' of this nature surely means that all banks - even if they do already - must look to further optimise their use of assets.

Common challenges

We often see the same top three collateral challenges for banks:

- **inadequate reference data quality** - especially the codifying of Legal Agreements and Credit Support Annexes (CSAs) into margin and collateral systems
- **entrenched "business silo" based collateral operating models** – frustrating the enterprise requirements
- **inadequate technology** – few banks have the systems integration to provide the tools required by collateral managers and traders for the new regulatory world

The collateral implications of future regulatory requirements (Dodd Frank, EMIR etc) are still not completely clear, but most banks have concluded they cannot wait and must act now. As well as implications for front, middle and back offices, we are seeing big impacts across a variety of bank functions:

- Risk functions are seeking more transparency into collateral holdings to better calculate exposures
- Legal functions face a huge challenge renewing and renegotiating agreements and CSAs
- Finance functions don't have the tools or the data to produce "collateral P&L" reports
- New regulatory reporting is anticipated to become a significant cost requiring many more people.

Many banks are therefore focusing on the technology around collateral that is needed to stay compliant, control risk and reduce costs – but this focus then introduces its own mix of costs, risks and challenges.

A vision for effective collateral management

Banks cannot continue to merely 'manage' collateral operations. There is a mountain to climb as banks think through and set clear goals for cross-asset, cross-silo margining and collateral pooling across geographies. We see three levels of maturity for collateral management:

- **Foundation** – getting the basics right: documentation; pricing and valuation; inventory; reference data; exposure; clearing and settlement; asset servicing and compliance.
- **Management** – extracting value by improving the operating model; workflow; reporting; risk; reconciliation; availability; trade-automation and STP.
- **Optimisation** – competitive differentiation through re-hypothecation; risk weighted assets/balance sheet optimisation; trader tools and P&L; "what if" scenario/portfolio modelling; risk analysis; collateral optimiser "trading engines".

The collateral operating model

A "collateral operating model" aligns people, processes and technology, informed by: goals and objectives; products and services; organisation; and well-framed controls. Collateral data (ownership, availability, eligibility, cost, priority) must be codified and made available on time to the people and the systems that need it.

The three peaks challenge

True collateral optimisation requires banks to scale the "three peaks", moving from the foundation through management and control, to optimisation - resolving the issues of operational efficiency and business silo fragmentation along the way - in order to deliver real value to the enterprise.

A structured approach

With the complex nature of collateral and its use, all such projects require a well-managed and structured process to ensure success.

Adopting a proven and structured approach for the collateral management journey helps banks to get the results they want by aligning thinking across business divisions and geographies, and between business and technology. This strategic phase of a project is typically followed by a mobilisation and execution phase to deliver the strategy. We call this approach 'Dynamic Process Modelling' (DPM).

Using experienced practitioners trained in DPM, collateral management improvement projects can be executed quickly and efficiently, maximising communication with key stakeholders whilst minimising distraction of staff from other day-to-day priorities.

Each of the steps results in clear deliverable milestones, demonstrating visible progress at every stage, and ensuring the required improvements occur.

Such a process needs to be supported by architecture modelling and road-mapping tools which can facilitate rapid scenario planning, enabling the bank to evaluate alternative approaches and to quickly make informed decisions on the optimal and bespoke approach for the enterprise.

The 'Dynamic Process Modelling' (DPM™) approach

Business direction. The political challenges of optimising collateral management across diverse business units and geographies should not be underestimated. Whilst 'bottom-up' tactical initiatives undoubtedly contribute, banks will fail to fully seize their opportunities unless there is an agreed business vision and direction, such as what constitutes "optimisation". Direct engagement with senior stakeholders is essential to facilitate.

Operating model. A new business direction or vision is likely to impact the bank's operating model. New products and services, such as collateral transformation and client clearing are likely to be created, affecting customers, not least through renegotiating CSAs. Pricing models will be needed to enable collateral pooling or aggregation across business units. Some roles, responsibilities and objectives are likely to be affected and new organisational structures may be needed in addition to the new collateral trading function. End-to-end processes, activities and controls will undoubtedly change. An effective, fast process for modelling business impact and driving out a target operating model is essential.

Technology model. The target operating model must be supported by enhanced technology, beginning with a logical application architecture that supports the new business direction. Utilising pre-existing reference architectures covering derivatives, securities, futures and options etc, will dramatically reduce the time and cost of developing a target architecture for the enterprise. The new model will incorporate key functions such as eligibility initial and variation margin management, data management, collateral pricing, collateral transformation, re-hypothecation etc. Such a model is invaluable in providing a common language and fostering better understanding, collaboration and partnership between business and technology. An assessment of existing technologies against the logical model helps to identify duplicate components and gaps that must be filled by buying or building new components, with decisions captured in a physical application architecture.

Roadmap. The gap analysis enables identification of Project Building Blocks (PBBs); normally 20-50 units of work with clear objectives to implement the physical architecture and target operating model. This may include further upgrades to existing applications such as Collateral Aggregator. It may also highlight the need for a collateral optimisation engine. There are a number of third party solutions beginning to emerge, hopefully reducing the need for custom development.

Business case. The roadmap and its PBB components provide a sound basis for the business case. Each PBB can be allocated a cost, resources, duration and expected benefits, enabling the business case to be created for submission into the budgeting process. The finalised roadmap should be highly informing to the PAR the bank wishes to submit.

Scenario planning. Business case submission inevitably triggers demand for further refinement, typically by considering alternative scenarios targeted at different goals and outcomes. Examples include testing hypotheses for prioritisation including: reducing year 1 spend; bringing forward business benefits; minimising the impact on customers; avoiding the overload of internal functions; hitting an internal hurdle rate etc. Experience shows that once a PAR is submitted there is a need to create and analyse multiple investment / implementation scenarios until senior level buy-in and sponsorship is established. By ascribing each PBB with not only cost and benefits, but also a business disruption score, customer impact, resource/skill requirements and dependencies, it is possible to rapidly and accurately assemble multiple scenarios to address the concerns and goals of key stakeholders. This is often essential for aligning senior sponsorship for the programme to proceed.

Mobilisation and Execution. Following the planning and modelling phases of the project, and once stakeholder and budget approval is agreed, the mobilisation and execution phase can commence, leading to the development and implementation of the agreed solution.

Conclusion

Many banks already have some initiatives underway to address elements of collateral management and optimisation, notwithstanding the uncertainties of Dodd Frank and central clearing. However, there are still many differing strategies, with leading banks adopting greater aspirations to manage collateral on a global basis, across asset class, and across business silos, whilst some are struggling to define what they mean by "optimisation". What is being optimised: risk? profit? Some view full optimisation as politically too difficult, preferring to focus on single asset classes or primary geographies.

However, it is clear that a structured approach and a material investment in technology is essential - not just to reduce operating costs – but to exploit new opportunities. **SLT**

Collateral challenges

Enterprise collateral management - Banks may seek to optimise collateral utilisation across the enterprise by creating new central functions, but aging fragile silo-based systems make this a challenge.

Administrative cost reduction - Banks are very focused on cost reduction, and the desire to automate the high cost, manual administrative processes associated with collateral management.

Legal spotlight - True "golden source" margining and collateral eligibility rules are defined in the signed legal agreement and a CSA. But the rules from these documents are often poorly codified into multiple disconnected systems, making it hard to manage and optimise collateral when retrieval is manual, costly, slow and held in silos.

Collateral arbitrage - Some banks already arbitrage CSA terms. Banks need to spot when they are being arbitraged and act. This is impossible without better information and processes. For instance, tools to identify "weak" agreements and CSA's provide benefit in this regard.

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Asian moves

In the lead up to IQPC's Collateral Management and Securities Financing Asia conference, Citi's Karim Chabane explains how the market has developed.

INDUSTRY OPINION

Karim Chabane, director of collateral management regional securities finance for Citi's Asia Pacific region spoke to SLT on the key drivers for the rise of interest in effective collateral management in Asia. He also gave us his take on the collateral management & securities lending market in Asia, and how it may evolve over the next 18 months.

SLT: Could you please outline the global economic landscape and its implications for Asia's collateral management & securities lending?

Karim Chabane: The current global economic landscape, post credit crisis, is leading to a new regulatory environment focusing on reducing exposures from OTC trading activity, and in APAC, we are seeing the confirmation of a trend towards collateralisation going across lending as well as capital markets products.

This new regulatory framework is taking shape primarily under US and European initiatives, however some practical implications remain uncertain and the future outlook is difficult to predict.

It makes no doubt more products will be cleared but the actual scope and timeline has remained unclear. In particular in Asia, we are likely to end up with multiple national initiatives, each with their own characteristics and little or no interoperability. Mandatory clearing for certain products and according to different rules depending on the jurisdictions will push for bifurcation of flows. This will increase the importance of collateral management to meet margin requirements of CCP as well as to mitigate counterparty risk exposures bilaterally. This increase in collateral management will push up the demand for adequate assets, potentially leading to liquidity squeeze and its increased capital costs implications. In this context, operational efficiency will be key and considering the use of an outsourcing specialised provider can help getting the right risk management tools and address complexity.

To give some perspective, the ISDA Margin survey 2011 shows that, over the last 10 years, counterparty risk exposure in the OTC derivatives market has grown at annual rate of 14 percent while the growth in collateral assets used to mitigate such exposure has grown annually by 30 percent (to reach an estimate of $3 trillion of assets used as collateral in 2010 as reported in the survey from 83 respondents, mostly brokers, banks and few investors/asset managers). This shows good signs of progress but there is still room for improvement even if at the same time clearing initiatives are rolled out.

SLT: In your opinion what are some of the key drivers in Asia for the rise of interest in effective collateral management?

Chabane: Even if in Asia, markets have been more resilient during the crisis, the situation has outlined pockets of significant counterparty risk exposures can't remain without creating a systemic threat in global financial market place. In this region, regulators are also considering setting up new rules in relation to counterparty risk exposure mitigation and introduction of central counterparties.

Consequently, effective counterparty risk mitigation has become a must everywhere. A 'wait and see' approach is not an option anymore and resources will need to be optimised globally.

SLT: How do you go about understanding the characteristics of Asia's fragmented market & its implications for collateral management & securities lending?

Chabane: I think fragmentation brings significant challenges for infrastructures, it almost does not exist in North America and Europe has undertaken its transformation into a single harmonised market in the Eurozone. However, APAC will remain fragmented for the foreseeable future which means initiatives in each country will not be interoperable before long, especially with regard to clearing infrastructures (different membership criteria, different regulatory frameworks and rule books).

However, if you look at counterparty risk mitigation from a collateral management perspective, to some extent, players are already used to work in a multi-jurisdictional framework as they may have signed ISDA agreements governed by a US or UK law and are dealing with collateralisation using assets sitting in other countries. So far, the model works but it is fair to say we are only at the beginning of the process and that consequently, the scope of assets being used as collateral in the OTC derivatives space has remained limited to cash and sovereign US and European bonds.

Therefore, an increase in collateralisation will gradually put a drain on that restricted pool of assets pushing players to raise liquidity or diversify across other asset classes that match their risk profile and credit quality requirements. Asia being the driver of economic growth currently, many firms have such assets in their portfolio and making it possible to use those as collateral would only improve efficiency and liquidity of the market.

SLT: When it comes to managing counterparty risk effectively through collateral management what are some of the challenges that are often faced?

Chabane: Collateral management can represent many challenges for certain firms especially when they are less sophisticated. It is often seen as operationally difficult to manage and it requires to be done in the proper way otherwise it creates more risks than it mitigates (increased activity, false impression of safety). When volumes increase, it requires automation, hence investments in IT and development. It is sometimes difficult for firms to identify where exactly to fit it into their organisation: it is a transversal function across different areas including risk, operations middle or back office with impacts on trading and accounting. All those reasons have left firms to resist changing and staying uncollateralized unless absolutely necessary, those times are over now.

SLT: Going forward how do you expect the collateral management & securities lending market in Asia to evolve over the next 18 months?

Chabane: I believe clearing initiatives will gradually make their way and develop in a number of countries, Korea, Hong Kong, Singapore, among others, have all their own initiatives. One common aspect of clearing is that it leads to margining and use of collateral, therefore I see huge benefits for firms who are going to improve their collateral capabilities already as they will implement the right, multipurpose, collateral and margining processes right away.

They will have limited additional work to cope with CCP margin calls when their use become mandatory. Also, I think it can be expected that there will always be products that would not fit into the clearing models for various reasons (non standard, new products, low volume not justifying CCPs to build the clearing models), so being able to operate collateral across products, business lines and asset classes will be required for firms willing to manage the process efficiently. **SLT**

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Helping financial institutions and investors unlock maximum value from their securities holdings is a goal that the experts at BNY Mellon continue to embrace. We continue to drive the latest innovation in the field while remaining steadfast to the safeguards and principles that we have always had in place. In fact, much of our innovation and investment is focused on the technology and systems that are providing greater risk mitigation and transparency to you and your clients. There are reasons why our clients trust us to handle more than US$1.8 trillion in daily collateral balances worldwide. May we tell you more?

Download BNY Mellon and InteDelta white paper, *Mitigating Collateral Damage, Current themes in managing and mitigating counterparty credit risk for OTC derivatives.*

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