Collateral thinking

SLT's panel of collateral management experts dissect the business of collateral and examine why 'collateral optimisation' is on everyone's minds at the moment

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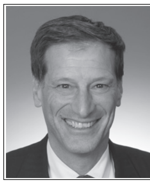

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To what extent are transactions becoming more collateralised?

Olivier de Schaetzen: We are definitely seeing more collateralised transactions. Growth is coming from all directions across the various segments that we cover in triparty. In the repo segment, we are seeing significant inflows of business from firms looking to collateralise exposures arising from their money market investments. With capital preservation on the top of their priorities, firms are turning to repos, particularly triparty repos, to achieve this objective. Investment managers and corporate treasurers represent the majority of new client types that we are welcoming to triparty.

In the securities lending segment, we are observing a strong trend towards the use of non-cash collateral in these transactions, which for the first time account for more that 50 percent of triparty securities lending volumes. Last, but not least, we are experiencing strong growth in derivatives-related collateral management, indicating a willingness by transactional parties to increase the use of securities as collateral in preparation for the implementation of new regulations, such as EMIR (European Market Infrastructure Regulation) and Dodd-Frank.

James Malgieri: The current regulatory changes are consistent on this: collateral, the need for more collateral and the right type of collateral. The unsecured cash market has more or less disappeared. Any sustainable finance activity now needs to be collateralised. We have, at the same time, worked with institutions that use collateral management to broaden the types of securities for securities lending and derivatives transactions, both OTC (over-the-counter) and cleared.

To isolate growth to a single factor and remove other market cycles is not only challenging, but limiting in its approach. We are running record high collateral volumes and every week it is increasing—there is a clear and strong trend.

Jonathan Philp: Collateralisation is widely seen as the most practicable way to manage counterparty credit risk. New regulations including Title VII of the Dodd-Frank Act and the (broadly) equivalent EMIR prescribe detailed collateral requirements for cleared and bilateral OTC derivatives exposures.

The growth in demand for collateral is therefore coming from: (i) new derivatives regulations, as many OTC derivatives participants have not historically been required to provide collateral for initial margin; (ii) the spill-over of these regulations into the secured lending markets, which are used by market participants to source central counterparty-eligible collateral: and (iii) a generally more conservative approach to the control of counterparty credit risk, such as reduced willingness to allow re-hypothecation collateral assets.

Arne Theia: There is a clear trend towards collateralisation that is mainly driven by upcoming regulations. To mitigate risk as much as possible, regulators generally promote secured transactions while penalising unsecured ones, making them uneconomic for banks. EMIR will have a huge impact on client clearing as transactions have to be fully collateralised and mainly executed against CCPs. ISDA estimates additional collateral demand for the clearing of OTC derivatives has reached $3 billion. Basel III will dramatically increase funding costs for unsecured transactions or secured transactions with lower quality of collateral.

Nick Newport: There is a clear growth in collateralisation across all areas of the industry. One of the primary elements of the regulatory response to the financial crisis is for more collateral to be held, particularly in support of derivatives trading. In particular, initial margin will now need to be provided to support derivative trading in far greater amounts than has ever previously been the case. This will equally affect both cleared derivatives and the remaining non-cleared derivatives. When taken together with other aspects of regulatory reform, such as restrictions on re-hypothecation, this will have a major impact on the industry.

Jane Milner: Although we are not directly active in the markets, we are aware that there has been an increase in the use of 'secured' funding transactions, and the repo markets have been the most visible beneficiaries of this growth. In terms of collateral to support the underlying transactions, collateral margins have increased, resulting in the demand for more collateral (value). The ultimate move towards CCP structures, either because it is mandated or to take advantage of the beneficial capital treatment that they bring, will further increase the demand for collateral as all parties need to put up margin/collateral when trading there.

Is the securities finance market benefitting from an increase in activity?

Philp: Yes it is. OTC derivatives users are being forced to put up significant incremental collateral to meet initial margin requirements. The range of eligible collateral, whether for cleared or uncleared trades, is narrow and likely to remain that way. OTC derivatives users that are not necessarily natural holders of CCP-eligible collateral need to source securities that will be accepted, and they will look to the repo and stock-borrow-loan markets to transform less liquid assets, such as equities, corporate bonds and so on, into CCP-eligible collateral. From an OTC derivatives perspective, this means incurring additional counterparty credit risk and potential over-collateralisation through multiple haircuts, but it is likely to drive higher volumes in the securities lending markets.

Theia: It opens up a new playing field for the securities financing industry as it is getting more important to source, transform and optimise collateral. Unfortunately, new regulations will affect the repo and securities lending markets and make them more difficult and expensive.

Malgieri: The securities finance market is both benefitting and suffering from all of the ongoing changes. While keeping up with all of the investments that need to comply with changes is a challenge, it is clear that market activity is increasing. There is an increase not only in straight repo financing, but also in collateral transformation. If we include securities lending in securities financing, we anticipate increased activity in collateral trading in the form of borrowing one asset to be used as an eligible asset and posting other assets as collateral.

> Newport: One of the primary elements of the regulatory response to the financial crisis is for more collateral to be held

de Schaetzen: New entrants to the repo market, such as corporate treasurers, are coming with term money across the money market curve, which dovetails perfectly with the trend that we see of the banks and dealers looking to extend their funding horizons to comply with new regulations. In addition, the growth in collateralised transactions across business lines is building the business case for centralised collateral management functions.

Milner: In an environment where more high quality collateral is required, for example to support what were previously OTC derivative transactions moving to CCP, 'collateral transformation' trades will become more prevalent. Those needing to deliver high quality collateral will drive demand for assets typically held by pension funds and other institutional investors. The hurdle is of course getting conservative funds to lend out their prized sovereign debt against cash or equities; collateral they typically would steer away from.

Is the type of collateral being accepted changing?

Paul Wilson: There are three elements to this. Firstly, there is a greater consideration of using securities rather than cash as collateral. Following the problems with cash reinvestment during the economic crisis, the view that non-cash can provide an effective means of collateralising trades has gained traction.

Secondly, the range of eligible collateral that firms are accepting is in some cases becoming broader. Some firms are now accepting more corporate bonds and equities as collateral. This is partly because firms that have implemented effective collateral management systems can be more confident that their haircut and margin calculations, and eligibility and concentration criteria, are accurate based on the credit risk of the counterparty and quality of the collateral they are taking in. Collateral optimisation also allows firms to allocate lower rated assets more effectively to counterparties who will accept them as collateral.

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Finally, in the light of current eurozone and sovereign debt crises, institutions with access to both large shapes of high quality, hard-to-borrow assets and systems offering sophisticated collateral management controls have the opportunity to lend these assets out versus a set of collateral schedules with differing risk levels in terms of eligibility, haircut and concentration components. This provides the market with increased liquidity. It also offers the lender an optimised revenue stream with lending rates correlated to the risk of the chosen collateral schedule, and provides both parties with clearly defined risk mitigation strategies.

Malgieri: The appetite for collateral and asset classes changes constantly. The collateral that is used is often a reflection of the risk appetite in the system, and it is also a function of the supply of collateral. For example, with the recent downgrades in Europe we are now seeing an increased interest in Japanese government bonds as collateral in the programme, as their relative rating has increased. We see shifts in asset classes depending on underlying trading strategies that may make one asset class more available since it is held as a hedge. Regulatory changes also play a very important role.

de Schaetzen: The quality of collateral that is used in our triparty collateral management environment continues to increase, with 55 percent of the total value of collateral rated AAA and 96 percent investment grade. However, the growing need for quality collateral is driving the market to long-term collateral swap transactions where firms are exchanging quality collateral against less liquid assets. We expect this segment of the industry to significantly grow in the future as the demand for quality collateral continues to increase with the implementation of new regulations.

Philp: There has been much discussion of the 'collateral crunch'; a shortage of high-quality liquid assets due to the competing demands of the new Dodd-Frank/EMIR collateral requirements and Basel III liquidity rules. Clearing house collateral requirements in particular are very restrictive, but a much broader range of collateral can be used in the repo and stock-borrow-loan markets. The primary function of a clearing house is to concentrate and manage counterparty credit risk, and clearing houses are systemically significant because of their role as central counterparty. I don't expect to see a material loosening of collateral eligibility standards. It is possible that some additional asset classes, such as investment grade corporate bonds and gold, for example, may be accepted. Some CCPs accept highly-liquid equities, but only subject to substantial haircuts.

Milner: Anecdotally, we hear that lenders are becoming more flexible and borrowers are delivering increased margin values on collateral types such as equities. Lenders that are more flexible with their collateral requirements will be the ones that make more returns on their assets. Of course, managing a set of diverse collateral types ever more closely, especially as some would argue the collateral transformation trade (collateral downgrade from a lender point of view) increases risk, a lender will require ever more intelligent management of their collateral in order to benefit from the incremental revenues.

> de Schaetzen: The quality of collateral that is used in our triparty collateral management environment continues to increase

Theia: Basel III is going to change our collateral universe. We will face new regulatory asset classes: entirely accepted, partially accepted and not accepted by the regulator. Non-regulatory assets, such as equities, will lead to higher funding costs for banks and may be banned from collateral schedules.

Are you seeing more of an interest in the use of CCPs in the securities finance market?

de Schaetzen: Yes, and the trend towards greater use of CCPs in the securities finance market will continue, as new CCP initiatives are coming to the market for both the repo and securities lending markets. The modest success of CCP services to trade collateral baskets on a screen, such as the EuroGC products, is very likely to accelerate when the necessary technological investments have been made by market participants. So far, CCPs have not yet proven their business case for use in the securities lending market for various reasons, of which a significant one is the challenge of adapting the CCP model to the specific requirements of the securities lending market. It will be very interesting to follow the new initiatives that are in the pipeline.

As far as the derivative market is concerned, CCP collateral management will inevitably be at the forefront, particularly for buy-side firms, as most, if not all, derivatives transactions will soon start trading on exchanges.

Malgieri: We do see a large interest in CCPs, particularly in the derivatives clearing space, but also in the funding and securities lending space.

In the derivatives clearing space, firms are actively working on the effects of upcoming regulatory changes. There is a well-established estimate of $2 trillion representing the worth of collateral that is expected to be needed if all OTC derivatives trades are cleared through a CCP.

> Philp: The triparty model, which is well-established in repo and securities lending, can be seen as an incremental step towards central clearing

However, this is only one of the trends in the market. In the derivatives space, there are several other trends that are in force: the request to segregate margin; concerns of transition risk; transparency not only on trades but also on collateral pools; CCP collateral acceptance; worldwide downgrades of sovereign debt; and acceptance of corporate bonds.

In the future, collateral managers need to do more with less collateral. That is, in an environment with fewer resources, collateral should be used most efficiently. For this to work effectively, the process in derivatives collateral has to be seen as an end-to-end process; it needs to encompass the buy side, the sell side, the CCP and potential third parties for collateral transformation. To meet a $2 trillion margin call, all collateral needs to be considered, including the need to transform collateral.

Wilson: This is something that our customers and prospects are starting to ask us about and that 4sight is actively engaged in. Should this model become prevalent in securities finance, firms will require collateral management solutions that can support CCP margining on a real time, intra-day basis. As well as connectivity with a range of CCPs, collateral management systems will need to be able to accurately forecast future margin requirements across products where appropriate based on each CCP's margin calculation criteria.

Users will also require a consolidated view of collateral across all trade types (eg, securities lending, repo, derivatives), and indications of which trades can be centrally cleared, triparty or bilateral. We are therefore working with European CCPs to determine their rule sets and margin call protocols for a range of cash, derivative, and collateralised trading activities. This in turn will increase our ability to satisfy cross-asset class or cross-business line collateral netting and optimisation.

Philp: There are signs of interest and indeed there are facilities in the market to clear repo transactions. The main regulatory focus is currently on the completion of the overhaul of the OTC derivatives markets, a key feature of which is the imposition of the CCP. The process of migrating from a bilateral to a cleared market is challenging; for example, the assets that are traded have to be standardised to allow clearing to be practicable. Regulators evidently regard the cleared model as superior in terms of risk mitigation and transparency, and so securities finance market regulation may well follow suit in due course. The triparty model, which is well-established in repo and securities lending, can be seen as an incremental step towards central clearing.

Theia: Regulators are promoting CCPs by making bilateral business more expensive. But there are other advantages of using a CCP, including risk mitigation or improvement of operational efficiency. Also, electronic trading is much easier against a CCP.

As collateral management has evolved into collateral optimisation, can this part of an institution's activities now be considered a profit centre?

Ted Allen: The increased pressure on firms to make the best use of assets is causing many to re-evaluate what was historically an ad hoc and often back-office activity. Collateral management is moving front and centre to the organisation with many realising the significant cost reductions that can be possible through an active management of collateral. Collateral optimisation has emerged as a new front-office discipline mandated to make the decisions around allocations of assets with specific P&L against this function.

de Schaetzen: Given the scarcity and fragmentation of collateral pools, managers who are able to optimise a firm's collateral resources efficiently and in a scalable way will become stars. Collateral is clearly becoming the blood of the financial markets, with collateral management at its heart.

Malgieri: Collateral optimisation is a very wide topic, and it is also a very subjective topic. It can cover many topics, including collateral management, identification, transformation and trading. Depending on how you view collateral optimisation, as a user, as an agent, or as a principal from the buy side or for the sell side, you will receive different answers. Today, there are already collateral trading desks that operate as profit centres, so it will be up to each business area to define how it structures their desks and business.

Wilson: From our perspective the move to actively pursue such centralisation is still in its infancy. This is partly due to the complexity, cost and cultural change of bringing together such disparate or previously siloed business lines. It is also due to internal commitments to bringing CCP functionality online, partly because of uncertainty about the actual impact of CCPs, in addition to unclear regulations. Finally, many institutions are still playing catch up, being simply focused on implementing basic collateral management fundamentals.

In some forward-looking firms, however, collateral management is certainly moving from a siloed middle- and back-office function to a front-/middle-office activity that's centralised across business lines and geographical regions.

Philp: While the emphasis of investment in active collateral management is, in general, directed at minimising the cost of sourcing and delivering collateral to support trading and hedging strategies, the most sophisticated banks are actively trading their collateral inventory, particularly in the repo and securities lending markets, to generate profits. In some respects, the direction of regulation weighs on this by requiring some categories of collateral to be locked up at third-party custodians, which clearly limits the scope for its profitable re-use.

There are clear opportunities for revenue and profit generation for providers of collateral management tools and infrastructure, as well as triparty collateral agents and clearing brokers with the capability to offer collateral transformation services to their clients. However, collateral transformation is likely to be a relatively costly service to run, and at a time when banks face more stringent capital requirements and difficult market conditions. Buy-side institutions that expect their clearing brokers to upgrade assets to CCP-eligible collateral on their behalf may instead be forced to enter the repo and securities lending markets directly.

Newport: Before elaborating on this, it's worth reminding ourselves that the primary reason for collateralisation is as a risk mitigant and this has not changed. So the way in which collateral management has recently evolved within financial institutions now has a number of objectives.

Firstly, to ensure that collateral does serve its purpose as the first line of defence against credit risk losses. Secondly, in managing the collateral process from an operational perspective, ensuring that this is done is as streamlined-a-way as possible. Finally, to make use of available inventory to minimise the collateral financing costs to the organisation.

This third element is an area that might be seen as a profit centre and does lend itself to the setting of P&L targets. But, for the majority of firms, I would say that they view this function less as one of maximising profit potential but rather minimising financing costs. The difference is subtle but important, and should be seen in the light of the new regulatory environment that has culminated in a significant rise in the amount of collateral, formed of a limited pool of high quality assets, which institutions need to place—and therefore also to finance. The driver for most firms in setting up collateral optimisation processes is primarily a defensive reaction to this increased collateral burden. Effective optimisation will without a doubt be critical to the ongoing ability of institutions to continue to trade derivatives in a cost-effective way.

What does collateral optimisation actually mean to you?

Theia: It's all about using collateral as efficiently as possible. It is important to know exactly what your firm's collateral, funding and regulatory positions are, and then to reuse and exchange your collateral to match existing requirements.

Newport: The term collateral optimisation has often been used in many different ways over the years. Sometimes, to refer to the operational streamlining of the collateral process, and at other times, to refer to the efficient management of collateral inventory. There now seems to be a convergence in use of the term across the industry to mean optimisation of the use of inventory for collateral purposes.

> de Schaetzen: We are bringing innovative solutions to extend the reach of collateral that our clients can use to cover exposures in a triparty environment

Optimisation of inventory though can also mean different things to different people at times. For some people, this can mean re-using collateral assets in the most effective way possible to maximise return. To others, and I think perhaps more commonly, it is used to refer to maximising existing inventory to meet collateral requirements as effectively as possible. There is no contradiction in these different outlooks, and they are really two sides to the same coin.

Even within either of these approaches, the exact way that any given organisation will wish to optimise will differ based upon many different parameters—for example, cost of funding, haircuts, shapes, minimum lot sizes and exclusion of specials. These many variations on the theme of collateral optimisation mean collateral optimisation technology solutions need to be as flexible as possible.

de Schaetzen: Collateral optimisation is a key driver of the services that we offer to our customers. We do whatever we can to help our clients to make the pools of collateral they entrust to us work harder for them. We create new collateral optimisation features regularly that surpass market standards and provide even better results with greater levels of granularity.

In addition, we are bringing innovative solutions to extend the reach of collateral that our clients can use to cover exposures in a triparty environment. A recent example is our partnership with BNP Paribas Securities Services, as a domestic agent, where our mutual clients will be able to mobilise collateral held in BNP Paribas to Euroclear Bank to use as collateral in triparty. Once the triparty transaction is closed, the assets will be returned to their account in BNP Paribas. This service will be launched in June, and soon thereafter, we will expand the service to cover more agents and markets.

Malgieri: From our perspective, we look at collateral optimisation as a process that brings efficiencies and mobilises collateral for our clients and allows them to ensure that collateral is allocated at the right place and at the right time.

Allen: There are many different aspects to the question of collateral optimisation. It is important to look at the problem from the firm perspective rather than at the level of the individual silos

Wilson: At 4sight, we see collateral optimisation as the centralisation of collateral management and optimisation into a profit centre, or 'collateral hub'. This allows institutions to keep a tight control of collateral risk and collateral usage costs on an enterprise-wide basis. From there, firms can optimise use of collateral inventory across a number of different trading opportunities and business lines, both internally and externally.

As firms gain a clearer picture of their true cost of collateral in P&L calculations, they can then use this to more accurately assess the profitability of a given trade, versus other trades. This ultimately results in them making more informed trading decisions in real time.

On the flip side, a centralised approach to delivering RQVs or margin calls is an important part of the optimisation process. This allows firms to validate exactly what collateral they receive to cover exposures across multiple business lines—whether via CCPs, bilaterally or via triparty collateral allocations.

Matching collateral receipts to original RQVs, exposure calculations, collateral schedules and risk metrics helps to manage risk, cost and collateral re-use. It also provides a means of correlating underlying client demands for individually-tailored collateral schedules with real-world collateral that comes from brokers under their more generic schedules.

In a nutshell, collateral optimisation is the ability to calculate the opportunity cost of collateral and then use this information to mitigate risk, while reducing the cost of collateral across business lines that the firm is engaged in. Collateral optimisation provides a driver for more profitable trading strategies, all on a more real-time basis, effectively managing the supply and demand for collateral on an enterprise-wide basis in the most efficient manner possible.

Philp: Collateral optimisation is about minimising the opportunity cost of allocating assets as collateral, compared to possible alternative uses, such as trading or funding. The two prerequisites of effective collateral optimisation are: (i) a comprehensive view of current and projected liabilities that require collateral across all products and markets; and (ii) a corresponding view of assets available for use as collateral, including collateral received that is available for re-use, and proprietary positions. The optimisation process then allocates available assets to collateralise particular liabilities at minimum cost. This is non-trivial, as counterparty eligibility criteria, concentration restrictions, haircuts and alternative opportunities for deployment of particular assets must be considered. However, the systematic application of rules or algorithms to the collateralisation problem can generate substantial efficiencies. Optimisation can, in practice, range from very sophisticated algorithms that are run many times a day to a relatively straightforward preference ranking of assets that determines the order in which they are deployed to meet margin calls.

Allen: There are many different aspects to the question of collateral optimisation. It is important to look at the problem from the firm perspective rather than at the level of the individual silos. The overall goal of collateral optimisation is to reduce the total cost of collateral of the firm as a whole and this is achieved through a number of methods:

- Reducing the amount of collateral that is demanded through optimising the netting set for each collateral call. For example, CCPs are starting to offer this service to net futures exposures with OTC derivatives, which gives the opportunity to take greater advantage of portfolio effects.
- Renegotiating bilateral collateral terms to allow for a more advantageous set of assets to be used as collateral.
- Optimisation of the collateral allocation. This is much more than cheapest to deliver for an individual call; it involves looking at the total set of collateral call requirements and allocating the collateral using complex optimisation algorithms to give the maximum overall benefit.
- Collateral optimisation requires firms to actively manage the collateral they have posted out and perform substitutions as the optimal deployment profile changes over time. These collateral trades and movements should be automated as much as possible to reduce the operation burden and risk.

How is technology changing the way collateral optimisation is being carried out?

Malgieri: The more proactive firms are considering collateral location on an intra-day basis, and we work with our partners to assist them in this process. Collateralisation techniques need to meet peeks of exposures in different regions and at different times. I would not rule out that there will be a need to transform collateral on an intra-day basis. The technology must continue to evolve to allow for firms to have a central view on their collateral they have and need. In the event that firms do not have the desired collateral, they will need to know the price to obtain it on an intra-day basis. Forecast technology needs to evolve to accommodate and predict the collateral demands across all product sets including, but not limited to, derivatives trades (both OTC and CCP), cash equity trades, settlement, payment systems, repo trades and securities lending trades. Collateral is now used in almost every transaction in the financial system.

Malgieri: The more proactive firms are considering collateral location on an intra-day basis

Allen: Increasingly, there is demand for technology that will work at the enterprise level across silos. While there are often internal barriers to acting off a single asset pool, many firms recognise the strategic need to take this leap. A global, real-time cross-asset inventory is a vital tool in determining the set of assets that can be deployed. An asset can have many uses of course, covering liquidity funding ratios, use for trading, and deployment as collateral against a number of different underlying transaction types.

The technical solution to determining how best a set of assets can be deployed then becomes a large but solvable technical challenge. Collateral optimisation tools are now offered that can crunch large portfolios against large sets of collateral requirements and determine the optimal allocation on a holistic basis. The use of such tools opens up the possibility of minimising the cost of collateral, as it takes away a significant burden on expensive front office resources that may previously have had to calculate the collateral allocation and book the collateral trades manually.

de Schaetzen: Both state-of-the-art technology and sharp expertise are required to further optimise collateral management. As an insourcer of collateral management services, we are committing significant resources to the development of technology as an enabler of collateral optimisation. Our collateral user group is extremely helpful in helping us to set the right priorities and define the right technological changes to deliver what our clients need in this fast-changing environment.

Philp: Both the need for comprehensive views of assets and liabilities are challenging to implement; product silos must be aligned, disparate sources of data integrated and business processes and technology solutions designed and/or selected. If the data can be assembled, then the challenge is to design and implement an efficient and cost-effective algorithm; one that can compute sufficiently robust collateral allocations without excessive performance penalties, in terms of time to compute and implement a given allocation.

Current enterprise data management tools and techniques are also key enablers of enterprise-wide collateral management, as they help to align and normalise data drawn from legacy product or infrastructure silos.

Wilson: Technology is helping to give firms a clearer, more consolidated real-time view of inventory and collateral usage across business lines for current and future dates. Another key building block is the ability to accurately model increasingly complex collateral schedules, including costs, haircuts, margins thresholds, collateral eligibility and concentration criteria to a very fine degree of sophistication. This forms the foundation of optimisation.

Once this structure is in place, collateral management systems then give users the capability to accurately manage and report, in real-time, the subtleties of collateral management, exposure and margin call workflows for asset classes including—but not limited to—securities lending, rebates, repos, CSA, long forms, ETFs, and FX, whether bilateral, or via CCP or triparty.

Finally, technology systems are providing users with the ability to simulate a range of collateral optimisation scenarios at trade, book, strategy, and programme level. Users can then turn these simulations into real collateral movements on-demand to structure and restructure any given collateralisation requirement. Because of the complexity and multi-faceted nature of these processes, technology solutions are the only way to achieve these activities successfully.

Newport: Technology is fundamental to the process of collateral optimisation.

The first technology challenge that is faced by many organisations relates to data integration and aggregation. Without a clear view of inventory, collateral requirements, eligibility and other reference data in a timely manner, optimisation is impossible. A number of collateral technology vendors are developing solutions specifically targeted at addressing this data aggregation challenge.

Having achieved a clear and timely view of inventory, technology is also critical to actually running the optimisation process. This requires a flexible framework enabling end-users to configure their optimisation preferences, an algorithm that arrives at the 'optimal' answer in as fast a time as possible, and straight through processing to effect any asset movements with as little operational overhead as possible.

It's fair to say that most institutions are only at an early stage of implementing their technology solutions in many of these areas.

Is the old system of silo-based collateral management now being consigned to the history books?

de Schaetzen: Silo-based collateral management is, unfortunately, still a reality for many firms and service providers. Some firms have combined and centralised all of their individual collateral management functions. They are now reaping the benefits of such a strategy by having easy access to collateral that was otherwise fragmented. Those using Euroclear Bank's triparty services can maximise our collateral optimisation features better than those firms that have not centralised, as their assets can be allocated very efficiently across exposures arising from many different business lines. These include repos, securities lending, derivatives, CCPs and open market operations with central banks.

Newport: Without a clear view of inventory, collateral requirements, eligibility and other reference data in a timely manner, optimisation is impossible

Newport: Most organisations are continuing to push forward with some form of cross product integration of collateral management. Such integration can be undertaken in different ways though and there may not be a 'one size fits all' answer that is right for all institutions.

At the very least, integrated collateral reporting across the various product silos is essential. This serves both client reporting and internal risk reporting purposes. One of the key needs emerging from the financial crisis is for institutions to be able to generate an aggregate view into all collateral holdings at the click of a button. This is the minimum level of integration that firms are undertaking.

Operational and technology integration across the product silos is also happening, bringing together derivatives, repo, equity finance and exchange-traded derivatives, and margining processes into central organisational units using standardised processes and standardised technology architectures. Different firms take different views on how deep such integration should go, depending on perceived cost benefits. The trend is certainly towards greater integration though.

Finally, from a front-office perspective, the more aggregation of inventory that can be achieved across products slios, the more opportunity for effective optimisation.

Malgieri: The current systems are working very well. In fact, some of the technologies that are already built prove a very efficient base for further developments, and they need to be employed across silos. The current platforms are already very robust and there are continuous improvements to make them even stronger. Most of the work to truly optimise collateral is organisational and not systemic. While the system can help, the greater challenge will be changes in the governance, including transfer pricing of collateral with maintained risk profile. These changes need to come from within the organisations.

Wilson: For some companies, a silo-based approach works well, but for others cross product is clearly more effective and profitable in the current market.

Philp: This is a challenging process, demanding new approaches to organisational, process and technology infrastructure design. Collateral management often evolved as a residual operational function within product silos. The sophistication of each product-specific collateral management process reflects the relative importance and maturity of the product within each institution. Furthermore, collateral management tools have evolved within product silos, addressing market-specific processes. Only now are vendors starting to offer genuine cross-product collateral management capabilities that can support true enterprise collateral management.

Theia: Efficient management of collateral requires full transparency and availability of a firm's inventory. Centralising and pooling assets helps to optimise collateral and save costs. But complexity grows, which means sufficient technology is essential.

Allen: In most institutions, collateral management has evolved independently in product silos and only now are they attempting to move to a centralised view. There remain significant organisation challenges in many firms to moving away from silos and it requires direction from the top layer to create an enterprise level function that is tasked with optimising the use of assets. For many this will be a gradual process as business lines are merging. We are seeing it in pockets with listed cleared and bilateral derivatives and we see it with financing activities, but for many, particularly the larger institutions, it remains a theoretical ideal. Of course, it must be stated that there is still scope for optimising within the product silos and optimisation tools and costs can be shared.

How do you see the market developing in the future?

de Schaetzen: Our view, which is supported by recent market studies, is that astute collateral management will play an increasingly crucial role in financial markets. The biggest concern is the potential shortage of quality collateral as demand grows. New banking regulations and the migration of OTC derivatives to exchanges alone will create an immense need for quality collateral. Banks and buy-side firms will need to optimise all available pools of quality collateral and will need to secure their access to sources of quality collateral by engaging in new types of transactions, such as collateral swaps.

Firms that are already actively using triparty collateral management services will further leverage the benefits that are derived from outsourcing their administrative burdens to a triparty agent. This is because most of the features that they have been using for their securities financing activity can also be used for the collateralisation of credit exposures, such as those relating to derivatives. We are confident in the strength and future of triparty collateral management.

Wilson: From a technology point of view, we envisage more automation around optimisation and dynamic margining.

As time goes on, collateral management systems will be able to react in a highly automated way to real time incoming market data feeds. This data could trigger automatic changes in haircuts and collateral eligibility criteria in the system in response to market events, subject to user approvals. Following this, the system could then automatically suggest reallocations so collateral is quickly redeployed in an optimised manner based on these new risk parameters.

This will help firms to respond more quickly and fluidly to market conditions, particularly during periods of volatility and when processing high volumes of trades. It may be that the market also uses other criteria to model counterparty risk, such as monitoring credit default premiums as a means of dynamic margining traditionally controlled by rating bands and forecasts.

Full cross product netting could also become a reality once a standard master netting agreement is formalised. Should CCPs achieve full interoperability at some point in the future, technology systems will also need to provide support for this model and help users to determine the benefit of transacting with each potential CCP from a capital, netting and collateral perspective.

Philp: Market participants have little choice other than to source and deploy eligible collateral assets if they wish to maintain their levels of business activity. Some institutions may scale back their OTC derivatives activities, but in general we see a desire to sustain activity, and therefore, a pressing need to invest in active collateral management. The need to cast the net wider to source eligible collateral leads to a tightening of the relationships and interdependencies between, for example, the repo, stock-borrow-loan and derivatives markets, and this will be reflected in the development of collateral management practices, as well as in the evolution of supporting products and services.

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Theia: The financial markets are facing a very difficult environment. And that will hit our industry for six. The good news is that without securities financing, it will be hard to perform any financial business. And that provides us with a lot of opportunities.

Allen: The huge weight of regulatory change affecting the industry, including Dodd Frank, EMIR and the parallel implementation of the Basel III capital adequacy framework, represents a significant set of challenges. Firms must address capital and collateral management requirements alongside falling spreads. The evolving regulatory environment seems set to put intense pressure on the liquid assets that will be required by banks and other financial institutions to meet minimum liquidity requirements and collateral obligations.

Realignment of collateral management and collateral optimisation to a central function must continue and it requires consolidation of functions, business processes and technology. The benefits that can be achieved from the active management of collateral are substantial, and support a compelling business case for investment. **SLT**

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