SLT
SECURITIES**LENDING**TIMES

Annual**Report** 2013
Collateral Management

Global collateral news roundup

Collateral technology analysis

Collateral costs discussion

T2S: more than settlement

It was only a bad dream

SLT's panel participants (mostly) agree that increased costs for high-grade assets may not be as expensive as originally feared

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A recent survey by SIX Securities Services said that a third of institutions believe that it is acceptable for collateral to be low quality, complex and opaque, so long as it is cheap. To what extent is this true and why?

Robert Almanas: Our study revealed a worrying trend that many financial institutions are willing to accept poor quality collateral so long it is cheap. In fact, 57 percent of the 60 leading financial institutions surveyed said that the price of collateral is more important than quality.

While price is naturally a very important factor, it should not be the single deciding factor when choosing collateral At SIX Securities Services, we believe that collateral must adhere to four 'collateral values': (i) it must be simple—complex securitisation practices make it difficult for central counterparties (CCPs) and financial institutions to gauge their counterparty obligations; (ii) it must be high-quality—regulators must resist the temptation to make low-quality collateral acceptable if we are to avoid another crisis; (iii) collateral must be liquid—enabling CCPs to easily return it under times of market stress; and finally, it must be easy-to-value—for financial institutions to minimise risk, they must be able to easily calculate their own and their counterparties' assets.

If institutions decide to compete on the quality and price of collateral they are willing to take, we will be faced with a race to the bottom, which will benefit no one.

Marije Verhelst: In our experience, collateral receivers are more interested in receiving good quality collateral that is instantly liquid. In a market in which collateral is expected to become increasingly scarce, largely due to regulatory reforms, collateral optimisation will become even more important. Collateral optimisation is all about making sure that the right securities are in the right place at the right time. We believe collateral receivers may become more flexible in the types of collateral they will demand, but from the collateral giver's perspective, they will always want to use the lowest quality collateral that is acceptable to the collateral receiver so that higher quality collateral remains unencumbered.

The definition of what is high or low-quality collateral is highly subjective, and each firm has its own definition according to its risk assessment models. For example, is a AAA government bond of higher quality than a AAA corporate bond? Collateral liquidity is becoming an increasingly important factor when receivers define eligible collateral as the market's experience with Greek government bonds during the crisis in Greece, for example, has not been forgotten. This is also one of the reasons why equities are increasingly considered as acceptable collateral.

Gösta Feige: We should take this as a message that, in turn, the large majority of the institutions actually value high quality collateral. Indeed, our experience shows that the need for high-grade assets is certainly there. We see an ongoing 'flight to quality', and the increased and increasing use of CCPs and other market infrastructures will further fuel the demand for high-grade assets.

On the one hand, lower quality collateral might be considered relatively cheap from a securities lending perspective, ie, when trading at low levels. But this reflects the limited use or value of this type of collateral in repo or CCP markets, and hence the limited demand for those assets.

On the other hand, lower quality collateral could actually become more expensive, as the flight to quality continues. CCP margin requirements and other needs for high-grade collateral call for collateral transformation, which is available at a certain price. Also, re-financing lower graded assets in repo markets is expected to become more expensive in order to reflect the higher collateral risk. Last but not least, higher margins and haircuts attached to those low-grade papers do also make them more expensive.

Ted Allen: I believe the key to this question lies in the perspective of the respondent. Ask a net provider of collateral if it would rather give cheap, lower quality assets as collateral or expensive high-quality liquid assets and you won't be surprised by the response. Collateral providers are always looking to minimise the funding cost of collateral and so will pledge the lowest cost assets available. However the question is moot when it comes to CCPs given the regulatory oversight and the importance of the robustness of such entities and the rigour of their risk management. Concerns may arise in the secondary markets of collateral transformation and upgrades through securities lending and repo transactions to meet the demand for high quality liquid assets for clearing and liquidity coverage ratio (LCR) obligations.

Alec Nelson: Our view is that low-grade, complex, opaque assets would not be acceptable or cheap. The collateral taker is very unlikely to accept this type of collateral because of the difficulty in liquidating it in the event of a default. Even if they were to accept it, the haircuts they would impose would require the collateral giver to put up a much higher value of collateral than the liability they are collateralising. This would then result in the collateral giver having a significant credit exposure to the collateral taker, which could lead to other issues and risk-mitigation costs, quickly negating any perceived cost-savings in raising the asset in the first place.

Martin Seagroatt: There is an argument going back and forth in the market about whether firms/CCPs should take in a diverse range of collateral types across the liquidity spectrum. The opposite viewpoint is that eligible collateral should remain within a narrow range of asset types in a few higher quality rating bands.

> "Allen: Collateral providers are always looking to minimise the funding cost of collateral and so will pledge the lowest cost assets available"

Accepting a broader range of assets does have the advantage of diversifying the collateral taken into the firm. It allows institutions to manage their collateral concentration risk profile effectively and avoids the firm becoming heavily exposed to market risk in one particular asset type.

If the correct haircuts are applied and an institution has the tools to analyse and manage the concentration of collateral taken in across all business lines, then this should, in theory, be fine. As with many investment decisions, a clear view of how collateral received against a given trade affects the entire collateral portfolio is key for this to succeed.

However, on the other side of the coin, taking in opaque collateral that is hard to price accurately could cause serious problems. If an asset suddenly becomes completely illiquid, then it clearly has little use as a risk mitigant in the event of a counterparty default.

Kelly Mathieson: Ultimately, collateral management is a counterparty and trade risk management tool. Therefore, it should be raised to the highest standards of risk mitigation. Approaching collateral management in a cheapest to conduct manner could run counter to the stability needed in times of market distress and crisis.

Collateral takers need to be able to hold the assets in the event of a default. Therefore, each collateral taker will need to determine for itself what assets are acceptable, and adjust its collateral eligibility schedules accordingly. This was a key area of focus following the market crisis in the US, and prominent in the Tri-Party Repo Market Infrastructure Reform Task Force recommendations (an industry group sponsored by the New York Federal Reserve Bank).

More opaque and lower quality collateral may prove less liquid in the event of a market crisis, which should also be factored into the agreements between collateral providers and collateral takers.

While eligibility criteria may broaden over time (with some changes already taking place, such as shifts in the Basel III LCRs and the Chicago Mercantile Exchange's (CME) inclusion of corporate bonds in its IEF4 programme), the focus is likely to remain on premium collateral as secured parties seeking to manage their own risk are unlikely to lower their standards.

Ultimately, collateral acceptability is a decision that each collateral taker must make based on its own business priorities, risk parameters, financial structure and governance. As agent, we act on our clients' eligibility instructions.

How difficult are sources of high quality liquid assets to find, and what can be done to maintain them once they are found?

Allen: Most studies seem to show consistently that there is actually adequate supply of high quality liquid assets.

> "Verhelst: While there will be increased demand for high-quality collateral, there will not be a structural shortage of high-quality assets"

The quantitative impact study from the Basel committee itself suggests an increased requirement for high quality liquid assets from various initiatives including central clearing, proposed bilateral margin rules for swaps and LCR to be of the order of $3 trillion, whereas global supply of such assets is around $40 trillion. My view is that the worry here is one of uncertainty over both how these figures will evolve over time and how to ensure these assets are available to the institutions that need them.

Feige: We would argue that—as long as an institution has the appropriate and efficient access to truly global liquidity solutions—those sources are indeed available and accessible. We've seen that our status as an international central securities depository (ICSD) and market infrastructure, while acting as principal counterpart in securities lending, attracts central banks, asset managers and other sources of high-grade assets to make those available for securities lending and consequently supply our borrowers with that collateral.

The same is true for our unique solution in Germany where we can offer reliable and law-compliant securities lending. This is thanks to us acting as BaFin (Germany's financial supervisory authority)-certified 'organised system' as per the German Investment Act.

On the other side of the transaction, the right collateral must be available to collateralise those securities lending transactions. Here again, global and timely access to the right collateral, be it with an ICSD, in domestic markets or with a global custodian, and to be activated efficiently and centrally out of one hand, is key.

Mathieson: While industry estimates range from $500 billion to $6 trillion of additional collateral that will be needed in light of regulatory changes such as central clearing, J.P. Morgan's internal assessment places the number closer to $2 trillion. However, even a conservative estimate of a $2 trillion increase in collateral will create a substantial market challenge.

We believe that there's sufficient collateral in the system to support the heightened demand, but that some non-traditional collateral providers may need to enter the market more fully than they have done in the past.

While J.P. Morgan does not believe that there will be a significant shortage of collateral available, institutions should first look to their own collateral book to meet their obligations. With high quality assets in high demand, it's critical to optimise available inventory, particularly where multiple internal business lines may be competing for the same pool of assets.

We believe that the greater challenge will be 'where' that high quality collateral is, and whether it will be accessible when needed. For example, are the assets being held in legal entities or accounts that can be accessed for use? Is it settled and unencumbered? Is it in a market that has operating hours consistent with the timing of the obligations (eg, Australian government securities would not be available for US market calls)? All of these questions make it even more imperative for an institution to have a holistic view of collateral assets and obligations and the ability to mobilise them globally.

> "Mathieson: The greater challenge will be 'where' that high quality collateral is, and whether it will be accessible when needed"

Verhelst: While there will be increased demand for high-quality collateral, there will not be a structural shortage of high-quality assets. In fact, the amount of AAA-rated government debt issued over the past five years has actually increased. A Bank for International Settlements report in May 2013 indicated that the amount of AAA and AA-rated government debt rose nearly $11 trillion between 2007 and 2012. The bank estimates the current pool of high-quality liquid assets at around $48 trillion.

That said, this pool of top-quality assets is fragmented and may not be available where it is needed. For example, central banks and sovereign wealth funds have large holdings in these assets, whereas demand for these assets as collateral comes mostly from investment and commercial banks.

Securities lending transactions can help to unlock these pools of collateral to reduce the imbalance, while benefitting the lenders with an additional revenue stream. The conditions under which the holders of these assets may be willing to engage in lending activities will require an ultra-safe environment with adequate controls and transparency on the collateral received when lending these assets.

Euroclear Bank has created a service called GC

Access (General Collateral Access) to meet the needs of these organisations. An expansion from our existing settlement-integrated securities lending service, GC Access helps these entities to lend bonds they hold with us at street lending rates. We manage collateral selection, valuations, transfers and substitutions, among other obligations.

Almanas: The US Dodd-Frank Act, European Market Infrastructure Regulation (EMIR) and Basel III are all placing more stringent demands on collateral. The central clearing of OTC derivatives calls for higher liquidity buffers and for contracts to be collateralised. The Basel III capital requirements are locking further collateral away.

> "Nelson: The best collateral transformers will be those firms with well-developed equity finance and repo capabilities"

High quality collateral is subsequently becoming increasingly difficult to find, a situation that will only be exacerbated in the future. Financial institutions must look to virtualise collateral pools, effectively mobilising what high quality collateral already exists.By creating a virtual collateral pool that spans multiple time zones, systems and currencies, institutions can eliminate the inefficiencies that are inherent in moving securities across systems.

Collateral management is not a simple undertaking, so many firms choose to outsource collateral management to third party specialist providers. A good collateral management provider should make an institution's operations more efficient.

Where does collateral transformation fit into this?

Feige: Exactly there. As on the one hand, high-grade assets will be even more in demand, access to the sources of that liquidity is key. On the other hand, those trades need to be collateralised and hence this very collateral must be allocated in time and wherever it might be held, with an ICSD, in domestic markets or with global custodians.

This is the beauty of a functioning and reliable solution such as our Global Liquidity Hub, bridging supply on one side and it's collateralisation on the other, all handled simultaneously and in an integrated way. The Global Liquidity Hub, being connected to all sources of liquidity and its takers while managing the settlement and allocation and handling the transaction and the collateral on a global scale, is crucial for its customers to be able to act in those markets.

Mathieson: The term 'collateral transformation' has certainly caught the imagination of the market. However, collateral transformation solutions have been available for decades—in the form of upgrade trades, securities lending, margin financing, secured credit and other financing options.

We believe that institutions should first seek to optimise their collateral fully to limit any transformation requirements. Fully utilising collateral assets across obligations will reduce the financing costs that come with transformation.

In the event of a collateral mismatch, the time-tested solutions noted above will be critical. Here at J.P. Morgan, we offer clients the option of using our expert financing services, with a 'warm handshake' service model that simplifies the process.

Allen: Given that in quantitative terms, there are sufficient assets available as outstanding sovereign debt has increased, the question then turns to how do you make sure these can be available to those institutions that require them. This means a loosening of the securities lending market through collateral transformations.

Verhelst: Collateral transformation is a type of securities loan where higher quality securities are lent and (slightly) lower quality securities are provided as collateral. Collateral transformations have been around for some time, but in an environment where the right collateral may become scarce or in the wrong place, to achieve collateral optimisation there will be more demand for collateral transformations in the future.

Nelson: We expect the best collateral transformers will be those firms with well-developed equity finance and repo capabilities, who are well-placed to transform collateral across equity and bond asset classes, and with market channels to raise and place the assets as required.

Almanas: Collateral transformation is a partial solution to any collateral shortfall, but it is not the only solution. Institutions should be wary of relying solely on collateral transformation to meet their obligations. The industry should be wary of devolving into an endless repackaging of securities to create 'fresh' collateral—the sort of activity that contributed to the crisis of 2007/2008.

Are you predicting increased costs for high grade collateral, and how big of a concern is this?

Feige: Given the increased need for it, yes we foresee raising costs for high-grade assets. The situation may, however, not turn out to be as expensive as feared due to new lenders entering the market as they see their opportunity and need to benefit from those revenues. Let's not forget that there are still trillions of assets currently not being lent and enabling those potential lenders solutions, where their risk appetite is met adequately—ie, by them lending to an ICSD, market infrastructure and/or CCP or market counterpart and against collateral of their choice—should bring at least parts of those assets into the securities lending markets and hence increase the global lending pool.

At the same time, as is typical in a context when prices are increasing, some trades and structures might simply not be done anymore if they are deemed uneconomical.

Also, raising prices on the loan side can be compensated by gained efficiency and lower costs on the collateral side. Having access to a global collateral hub, where collateral is detected, identified, checked and valued for its potential eligibility for the various purposes and effectively allocated out of hand, no matter whether the collateral is actually held with an ICSD or in domestic markets or with global custodians, enables massive cost reductions.

> "Feige: Let's not forget that there are still trillions of assets currently not being lent"

Almanas: There is considerable uncertainty in the industry over the possibility of a collateral

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crunch, the size of the potential shortfall and the corresponding impact this may have on the cost of collateral. Over half of the institutions we spoke to for our study believed there will be a collateral shortfall by 2015, although estimates of this shortfall varied massively.

In turn, most of these institutions believe collateral will increase in cost but there is very little agreement over how much. The mean average estimate of cost increase was 9 percent although only half of those surveyed were able to even provide a figure. Against this backdrop of uncertainty, it is of little surprise that institutions are having difficulty in responding to the situation.

> "Seagroatt: There will probably be some cost increases and localised shortages of collateral although this may not be as pronounced as some estimates suggest"

Seagroatt: There will probably be some cost increases and localised shortages of collateral although this may not be as pronounced as some estimates suggest. It depends on a number of factors, including the macro-economic situation as this has an impact on both the amount of high quality liquid assets in circulation and on margin requirements.

Verhelst: Indeed, costs for high-grade collateral are expected to increase in line with both the increase in demand and the shortfall of available high-grade collateral where it is needed. Whether this is a concern depends on whether you are on the collateral supply or demand side. Lenders may benefit from increased lending fees, which are, of course, a positive development for them. In fact, we may see an increase in lending rates to attract new sources of supply to the market. On the other hand, borrowers will only pay the rates they find economically acceptable for the business they are doing. However, lenders need to be careful they don't price too aggressively as borrowers may simply decide to exit the business if rates become too dear.

How are technology providers innovating to lower costs and improve efficiency?

Seagroatt: Firstly, we are continuing to develop more sophisticated optimisation algorithms, and this can directly help customers to maintain control over collateral costs.

Clearer views of collateral funding costs enable traders to make better trading decisions that include collateral costs in trade pricing. It also allows firms to gain a clearer view of the true profit and loss of a trade.

For collateral managers, there is also increasing automation of the margin call process and areas such as collateral substitutions. This is reducing a lot of time-consuming manual effort involved in day-to-day collateral management. It frees up time for collateral managers to focus on the collateral portfolio at the enterprise level and maintaining control over the firm's collateral risk profile. Technology is also helping users to gain a clearer view of exposures across all products.

The CCP margining process is an area where there is a lot of room for innovation. Most market participants are now making the transition to trading derivatives via CCPs. Once this new model is in place, the more sophisticated institutions will look at ways to optimise the CCP process.

This could look at the costs of trading via different CCPs, based on their differing collateral eligibility and initial margin requirements and the resulting collateral funding costs. It could also include the impact of portfolio margining and netting benefits.

Allen: Technology plays a key role in this new market dynamic. As a first step, technology can help institutions first of all gather a single consolidated view of their available inventory. That sounds simple at first hand but is something that many firms struggle with as business lines have evolved in discrete silos. Achieving that holistic view of what assets are available globally and in real time is a big area of focus in the market right now. Firms are demanding that their technology operates across silos with real-time market connectivity to bring that consolidated view to a reality. With a consolidated view of inventory and an effective collateral transfer pricing mechanism in place, collateral optimisation becomes more meaningful. Forward thinking vendors now provide platforms that can operate across the enterprise enabling the firm to make centralised decisions about asset deployment and liquidity management.

Nelson: We are seeing some common themes across technology vendors and in-house IT teams: the headline theme is 'cheapest to deliver' optimiser algorithms that can evaluate all of a firm's collateral relationships and come up with a set of recommended collateral movements that will minimise the cost of collateral.

But these algorithms cannot work without many other things having been built, including: creating cross-asset/cross-business views of inventory; establishing 'booking models' to allow assets to be transferred across business-lines and across legal entities in a seamless, controlled, back-to-back way; improving links to settlement systems, so that the settled state of (collateral) assets is known (ideally intra-day); improving the quality of legal agreement and CSA data that is held, so that more accurate decisions and controls can be introduced; and providing tools to analyse liabilities, collateral positions and resulting exposures across business lines and collateral relationships (eg, cleared, bilateral, triparty, credit-lines).

We are also seeing the introduction of 'big data' technologies (already heavily used by internet firms) that make it easier to integrate information from the potentially hundreds of different data sources that are needed in order to create an effective collateral management and optimisation system.

> "Almanas: Many of those institutions that outsource their collateral management functions are to some extent in the dark about the fees that they are paying"

Verhelst: Having efficient systems to manage collateral at the lowest possible cost is indeed vital, especially when a chain of intermediaries is involved in a collateralised transaction. Technology providers have recognised this and have been working on collateral management systems that help firms manage collateral across the whole global enterprise. However, the real challenge is to provide a real-time view of all the firm's collateral held in multiple locations and deposited with various collateral receivers, such as CCPs, clearing members and central banks, as well as with payment systems, central securities depositories, custodians and agent banks.

Although we are not a technology provider per se, Euroclear is using robust technology to source and mobilise collateral from various locations, in conjunction with our partners, via our global Collateral Highway.

Almanas: Given the wave of regulatory initiatives that have expanded collateral management requirements across many participants in the value chain, it is no surprise that technology firms are developing solutions, particularly for buy-side firms that will be using central clearing facilities for OTC derivatives. Regardless of their position in the value chain, firms must take into account the costs of technological adaption within their operating environment. A key decision criterion for any technology solution is the degree to which new technology provides more efficient views and control of diverse collateral pools.

Mathieson: We can't speak to what technology providers may be doing, but can tell you how J.P. Morgan is innovating and expanding its global collateral management solution to support clients:

- In June, we enhanced our collateral management offering to provide complete collateral portfolio solutions that are unique in the market. Our integrated, end-to-end collateral management service supports institutions in managing their collateral against more counterparties and transactions as required by global regulations, in a more operationally complex market model.
- Global view of assets and obligations: a central view of assets whether held at J.P. Morgan or at other custodians. Our clearing broker- and custodian-agnostic service aggregates transaction data provided directly by the client, or by their third party brokers or custodians, into a single Virtual Global Longbox. This gives clients a comprehensive view of their assets and the obligations requiring collateralisation.
- Collateral optimisation: more efficiently use assets to help reduce financing costs, using sophisticated optimisation algorithms and rigourous eligibility testing. Optimally deploying collateral can reduce the need for, and cost of, transformation services. Should a mismatch occur, collateral upgrade trades or other time-tested financing and liquidity strategies are available from J.P. Morgan or its affiliates.
- Data-driven decisions: advanced data and analytics to help institutions understand and assess collateral needs to support informed decision-making. Clients can model and run comprehensive projections, using actual or hypothetical portfolios to understand the impact of different decisions. This is increasingly critical as central clearing increases demand for high quality, highly liquid collateral, which is likely to limit supply and inflate costs.

Feige: Answering from the perspective of a global collateral agent, we contribute to both aspects by enabling reliable and multiple access to all sorts of liquidity, ie, cash and securities from various lenders, including banks, central banks, state agencies, asset managers, corporates—while at the same time reducing operational and business costs by making each and every piece of collateral available. No matter whether collateral is held at ICSD level, in domestic markets or at global custodians, the ability to identify, allocate and manage it efficiently across borders and settlement locations out of central hub is a major contributor to efficiency and cost reduction. Incidentally, in a study for Clearstream, Accenture already estimated in September 2011 that collateral management inefficiencies would cost the global industry around €4 billion annually.

How can more transparency help to control collateral costs?

Verhelst: In all financial markets, transparency generally contributes to fair pricing, in line with real supply and demand. In order to optimise collateral usage and control collateral costs, it is important to have a holistic view on all securities positions that may be useful as collateral. It is only then that individual firms and the market in general will achieve true transparency on collateral supplies.

Feige: Having one truly global provider who identifies remote and idle pots of collateral and reliably manages to activate and allocate and manage them does not only help by providing the global and complete picture of all sources of collateral, but also keeps costs to a minimum by managing them globally and in an integrated manner, where and when they are needed.

Allen: Greater transparency in terms of the consolidated views of the available inventory coupled with consolidated views of demands on asset utilisation help firms make the right decisions about asset deployment. Management of the liquidity and collateral funding risk is also key by allowing forward projections of collateral requirements to influence collateral asset allocation decisions. Likewise, an effective collateral transfer pricing and collateral cost allocation mechanism within a firm will allow for centralised asset deployment and a more efficient overall allocation for the firm.

Almanas: Transparency enables collateral to be valued correctly, which benefits all participants in the value chain. We have also noted that many institutions are concerned that the pricing structures of the post-trade industry are far from transparent. Many of those institutions that outsource their collateral management functions are to some extent in the dark about the fees that they are paying. This can lead to them paying unnecessary fees, not to mention the negative impact this might have on trading performance (ie, trades not being as profitable as first though) and systemic risk. When choosing a collateral management provider, firms need to consider many factors including: ongoing internal operating costs; cost of implementation; the explicit 'fees' the provider charges; and also the possibility that providers may subsidise their collateral management fees.

Nelson: Historically, a common deficiency in risk and cost calculations has been the lack of information about the actual assets that had been received or pledged for collateral purposes. Without this detail, risks and exposures could not be accurately calculated. Similarly, collateral costs have been calculated using fairly simplistic models, which make general assumptions about the types of underlying costs involved. It is therefore difficult to fairly attribute costs and credits to users and providers of assets, in turn making it difficult to provide the right incentives to trading desks. More transparency will enable better collateral cost models to be developed, but a firm will still have to invest significant time and effort to achieve this, requiring input from many areas of the business, including front office, operations, finance, risk and compliance, to name but a few.

Mathieson: Transparency is essential. We believe that understanding the true cost of collateral allows institutions to make more informed trading and portfolio management decisions. Our goal is to help clients have clear view of their assets and obligations, whether held at J.P. Morgan or at a third party, and the analytical and decision making tools to assess their options and costs in order to fully optimise their collateral portfolio. **SLT**