



**SOLUM
FINANCIAL**
DERIVATIVES ADVISORY



Solum Collateral Management Survey

August 2015

SOLUM FINANCIAL LIMITED

www.solum-financial.com

1 Introduction

1.1 Executive Summary

The role of collateral management has changed forever. Originally mandated with a focus on mitigating counterparty risk, by validating and making collateral calls to offset counterparty exposure, it is now inextricably linked to pricing and profitability. What was traditionally an operational process, has increased in complexity in an attempt to monetise collateral optionality by treating collateral as an intrinsic part of the valuation process.

This survey of the largest international banks highlights the rapidly changing collateral management environment. Although there remain differences in implementation amongst the largest institutions, there is a high degree of agreement on best market practices. The majority of participants are now using cheapest to deliver (**CTD**) discounting in derivatives pricing. Some participants have deterministic models whilst some participants use a stochastic methodology. Although 70% of participants plan to use a stochastic methodology in the future.

Increased use of clearing houses (in some instances on a mandatory basis), forthcoming bilateral initial margin (**IM**) rules and other aspects of Basel III, EMIR and CFTC regulations, result in greater collateral demand and velocity. Additionally the move towards incorporating CTD variables within derivative inception pricing has focused attention on collateral eligibility and quality. Whilst CTD is widely incorporated in derivatives pricing, there is still progress to be made with areas such as floored/margined interest rates, substitution conditions, additional termination events (**ATEs**), rating triggers and refinements to the embedded optionality modelling. The trend towards establishing specific discounting curves for differing types of non-cash collateral, based on issuer and rating, is also evident. This has resulted in counterparty specific pricing for otherwise identical transactions, with a risk of mispricing if collateral assumptions are incorrect or misaligned with actual delivery.

IM requirements are increasingly being priced into derivative trades largely within the FVA framework, noting the absence of a specific IMVA reserve. To a large extent, interbank CCP settled trades, appear not to have a specific IMVA pricing adjustment, although a number of counterparties will charge the cost of a cleared hedge on a non-cleared client trade. Materiality plays a part for large trades, and it also appears that back loading activities will take into account costs for changes in IM. Interestingly, a balance between KVA improvement and IM cost is cited by one participant as the hurdle for back-loading.

Effective collateral management is essential within any organisation. Establishing consolidated collateral pools with a single view of the entire collateral inventory, enabling the use of collateral in an optimal way across all asset classes, is another market trend. However, this survey suggests this to be more of a work in progress rather than a completed task, with a high degree of variance amongst participants. Complexity is also increasing, along with the requirement for tools to manage increasing collateral demand. Efficient collateral optimisation is a complex process. Traditional management processes need to be updated and automated. This increase in complexity and importance has led to re-organisation, moving responsibility away from traditional desks such as repo and treasury, towards xVA desks and specific collateral management groups.

Restrictions on optimisation activity largely appear to be regulatory in nature, with a high level of participants citing balance sheet and leverage ratio concerns. Impacts of funding metrics such as the Liquidity Coverage Ratio (**LCR**) and the Net Stable Funding Ratio (**NSFR**) also appear to restrict collateral transformation activities. Operational constraints are also evident, with the lack of collateral visibility on a real time basis cited by a number of participants. Difficulties around automation of substitutions and the introduction of settlement risk may mean that an optimal recycling of existing collateral and an inventory management tool are more important than complex optimisation algorithms.

Management of collateral demand is also evident. The majority of participants have established dedicated CCP risk management units responsible for managing margin requirements. Participation in compression cycles is virtually 100%, with a similarly large number of participants actively engaged in bilateral risk reduction activity. The recent large movement in CME/LCH basis risk highlights how margin imbalances can feed directly into pricing and the need for proactive margin management.

Sub-optimal collateralisation has led to renewed efforts to standardise, simplify and restructure CSA documentation. There appears to be a concerted focus on re-negotiating unilateral CSAs, remediating rating triggers and on the removal of collateral rehypothecation restrictions. Participants are also amending CSA terms whilst negotiating documentation to accommodate the forthcoming bilateral IM rules.

1.2 Survey Methodology

This survey examines in detail current collateral management practices and looks ahead to expected future developments. It analyses organisation, pricing, documentation and regulatory considerations.

Solum Financial Limited (**Solum**) prepared a series of 29 questions to cover the topic as comprehensively as possible. Solum surveyed a target group of 21 banks with established collateral management processes and their responses were given as a current state of the situation that existed at the time of the survey. Solum notes that subsequent changes may have occurred.

Answers received were compiled by Solum and these results are published on an anonymous basis. An asterisk (*) in the title of a graph indicates that multiple answers were given by participants for this question.

1.3 Glossary

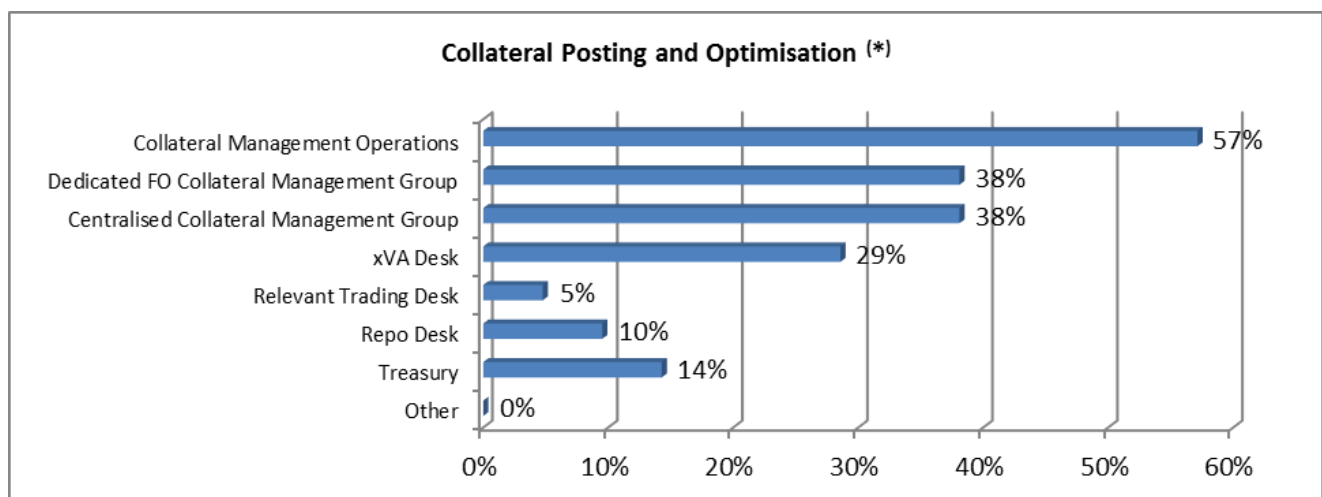
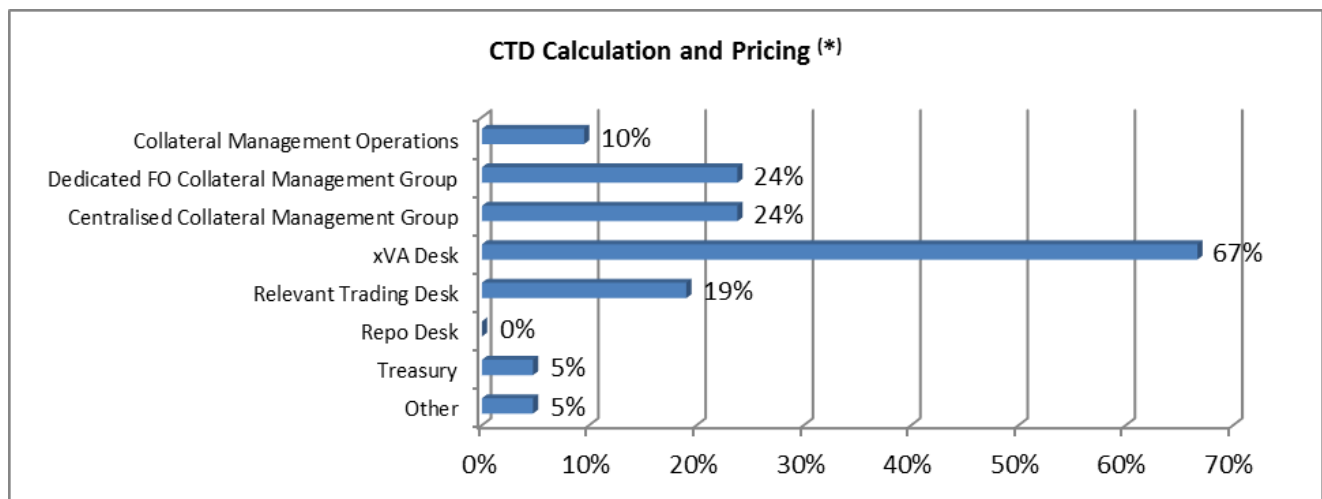
ATE	Additional Termination Event
BCBS	Basel Committee on Banking Supervision
CCP	Central Counterparty
CFTC	U.S. Commodities Futures Trading Commission
CTD	Cheapest-to-Deliver
CSA	Credit Support Annex
CVA	Credit Value Adjustment
DVA	Debt Value Adjustment
EBA	European Banking Authority
EMIR	European Market Infrastructure Regulation
ESA	European Supervisory Authority
ETD	Early Termination Date
FCA	Financial Conduct Authority
FVA	Funding Value Adjustment
GMRA	Global Master Repurchase Agreement
HQLA	High Quality Liquid Asset
IA	Independent Amount
IM	Initial Margin
IMVA	Initial Margin Value Adjustment
KVA	Collateral Value Adjustment
LCH	London Clearing House
LCR	Liquidity Coverage Ratio
MtM	Mark to Market
MPOR	Margin Period of Risk
NSFR	Net Stable Funding Ratio
RTE	Ratings Trigger Event
RTS	Regulatory Technical Standards
VM	Variation Margin
xVA	Derivatives Valuation Adjustment (includes all of CVA/DVA/FCA/FBA/KVA/etc.)

2 Survey Results

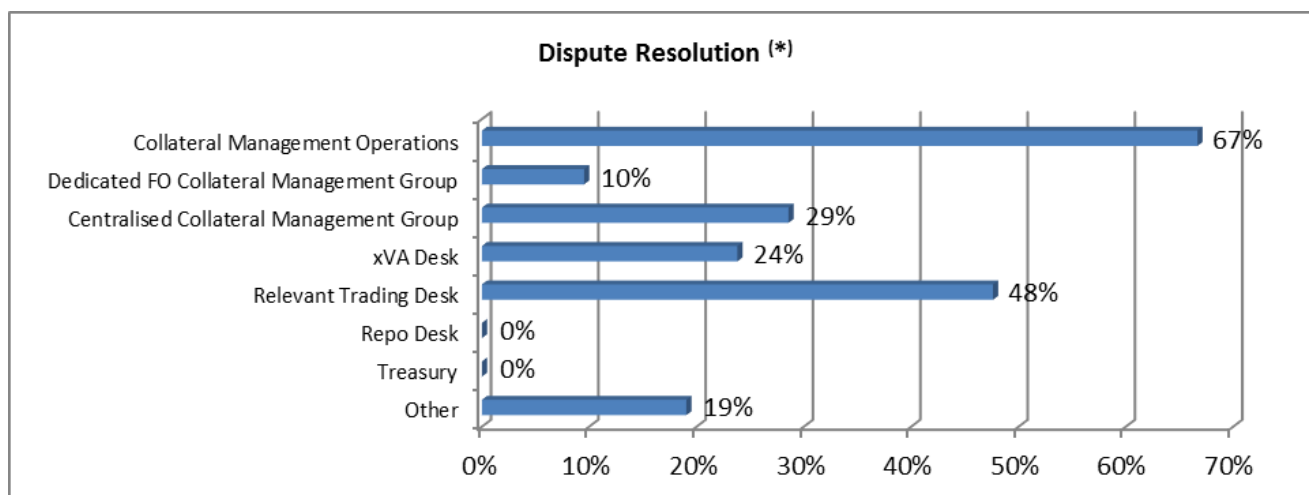
2.1 Organisational Set Up

The areas within banks that could be seen as the traditional areas for dealing with collateral management, such as repo desks and treasury, now have reduced influence in this space. Collateral management, which was historically an operational process, has increased in complexity in an attempt to monetise collateral optionality. This has led to its incorporation within xVA desks and, more recently, these desks have evolved to be, or incorporate, specific collateral management groups, illustrating the growing importance of this subject. Collateral management requirements are constantly developing due to a shifting regulatory environment and growing options, as a result of improved internal IT systems and third party vendor solutions. This further increases the requirement for specific collateral management teams, either dedicated to one front office business such as rates, or a centralised group covering multiple business areas such as derivatives, repos etc. Solum expects the trend towards this type of organisational set-up to continue.

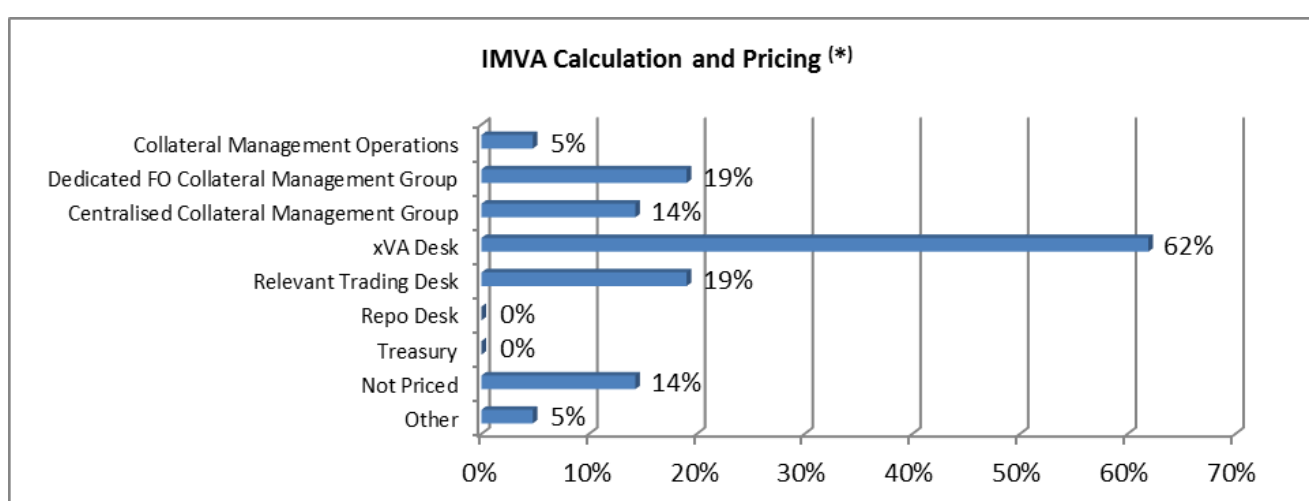
Most participating banks reported multiple internal areas influencing collateral management. The areas where specific collateral management groups are more prevalent are not surprisingly those developing quickest, such as CTD calculation and pricing and collateral posting and optimisation. Here the specific collateral management team will still work with more traditional collateral management operations during the posting process.



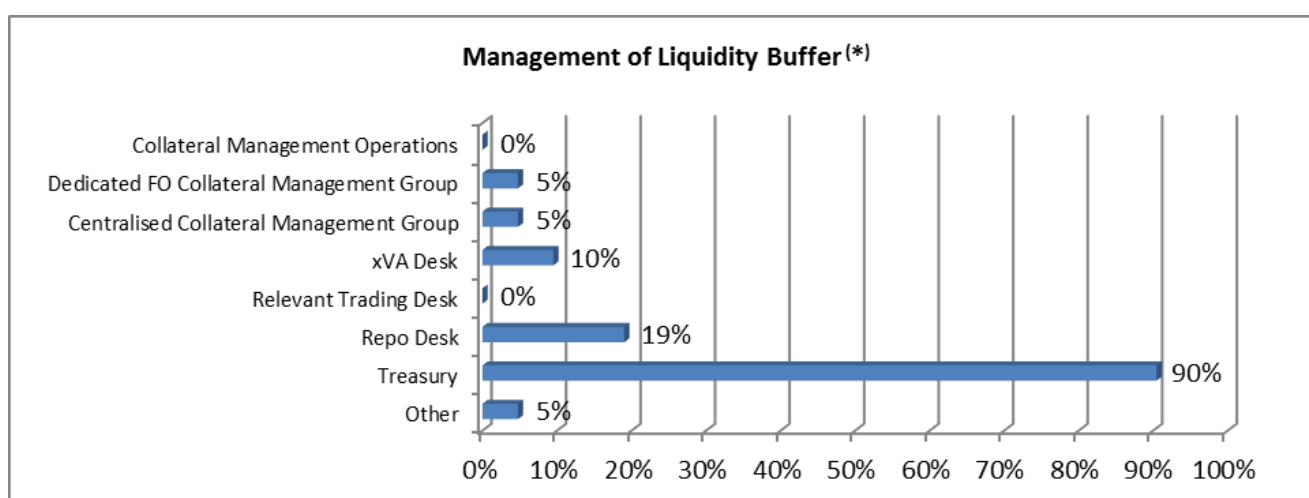
Due to incoming guidelines from EMIR and the CFTC, prompt dispute resolution has become an important part of the collateral management process. Dispute resolution is predominantly handled by collateral management operations, with roughly half of the participants also reporting an input from the relevant trading desk. As can be seen from other charts, front office trading desks are not generally considered the optimal place for collateral management functions, therefore this input is reflective of the increased complexities in pricing collateral and the importance of resolving queries efficiently.



With the xVA desks' primary purpose being to calculate pricing adjustments, it is no surprise that they manage IMVA calculation and pricing to a greater extent than a specific collateral management group does.



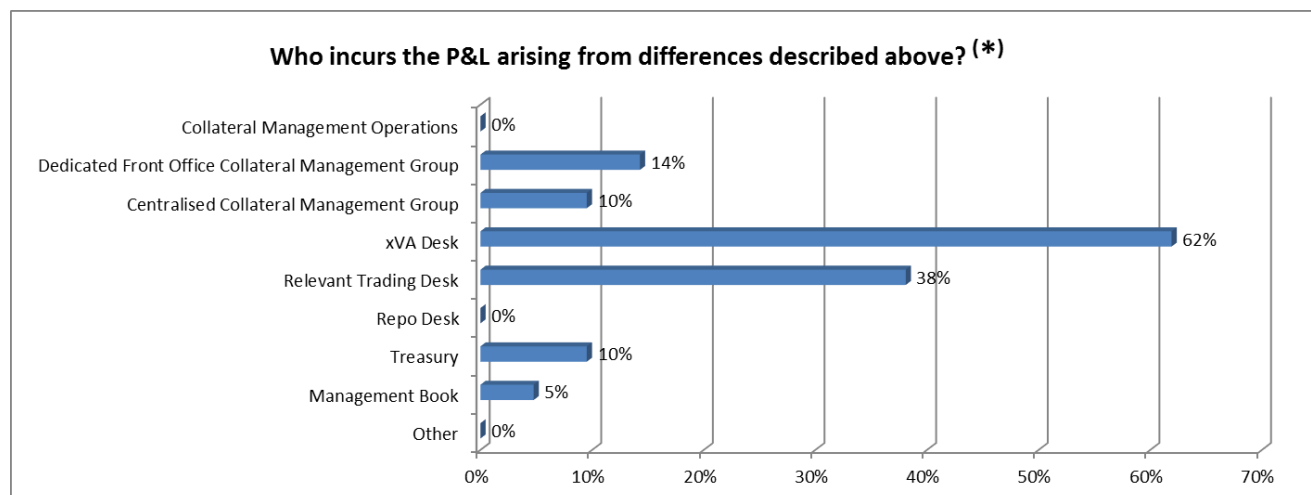
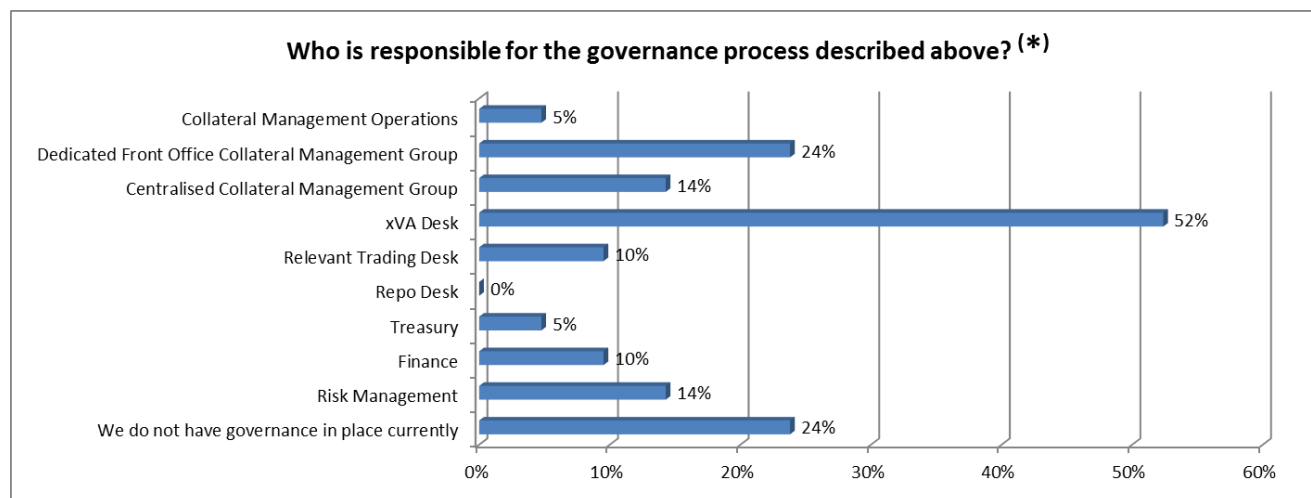
One of the key reforms of Basel III, the LCR, requires banks to hold unencumbered high quality liquid assets (**HQLAs**) that can be easily converted to cash in liquid markets. The obvious exception from the move away from traditional areas is that treasury still controls management of these assets within 90% of the participating banks.



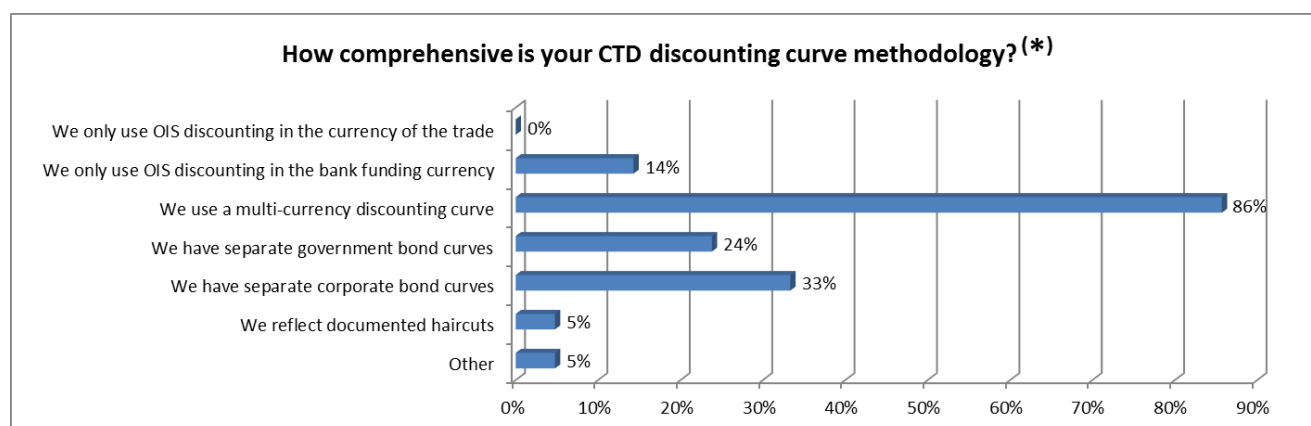
Solum notes that all but one of the participants either already have, or have plans to implement, governance to monitor

the alignment between CTD calculation and actual collateral posted or received. The participant that was the only exception to this qualified its response by stating that the differences are transparent in its P&L.

The vast majority of this governance takes place on an xVA desk or within a dedicated collateral management group. The P&L generated from differences between the processes however, normally sits with the xVA desk or the relevant trading desk. This would indicate that the dedicated or centralised collateral management groups do not have a mandate for profit and loss.



2.2 Pricing



As highlighted in previous Solum surveys, derivative pricing in the market continues to evolve. Following the crisis of 2008, market participants recognised the implications for derivative funding costs of wider Libor OIS spreads, and sought to

incorporate this effect into inception pricing. This resulted in a move to OIS discounting for collateralised trades, in line with documented credit support annex (CSA) funding levels, and the emergence of FVA pricing for uncollateralised or sub-optimally collateralised trades.

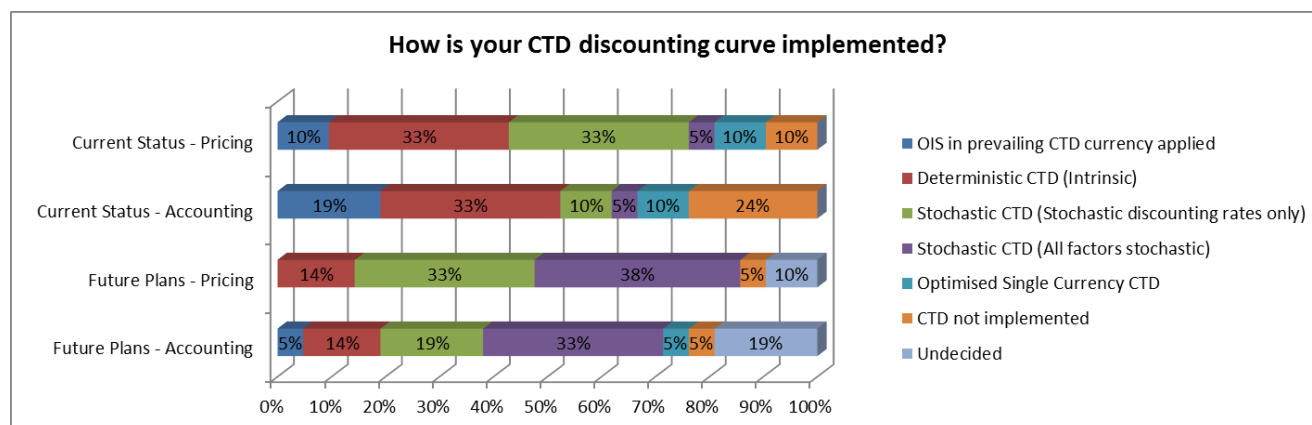
Further development of this methodology sought to incorporate the inherent optionality associated with other eligible collateral embedded within existing CSA documentation. The potential for mispricing derivatives by not recognising the different funding levels of different eligible collateral resulted in the concept of CTD pricing. CTD discounting curves are based on the assumption that at any point throughout the trade lifetime, parties will deliver the optimal collateral eligible under the existing bilateral documentation. This has resulted in the implementation of multi-currency discounting CTD curves, as borne out by the majority of participating banks in the survey.

Solum notes that not all participating banks have progressed to a multi-currency discount curve, with a minority choosing to use a discount curve aligned to the bank's funding currency or, in two examples, designated as an "Optimised Single Currency CTD".

None of the participating banks use CCP style discounting where the discounting curve reflects the currency of the transaction for bilateral trades.

A further refinement to the adoption of multiple discount curves is the separate implementation of government bond or corporate bond curves, to reflect the balance sheet and funding implications of bonds versus cash collateral. Two participating banks further clarified that they utilise separate issuer-specific bond discounting curves to incorporate differing repo levels.

Solum notes that only one participating bank incorporates documented haircuts in its discounting curve methodology.

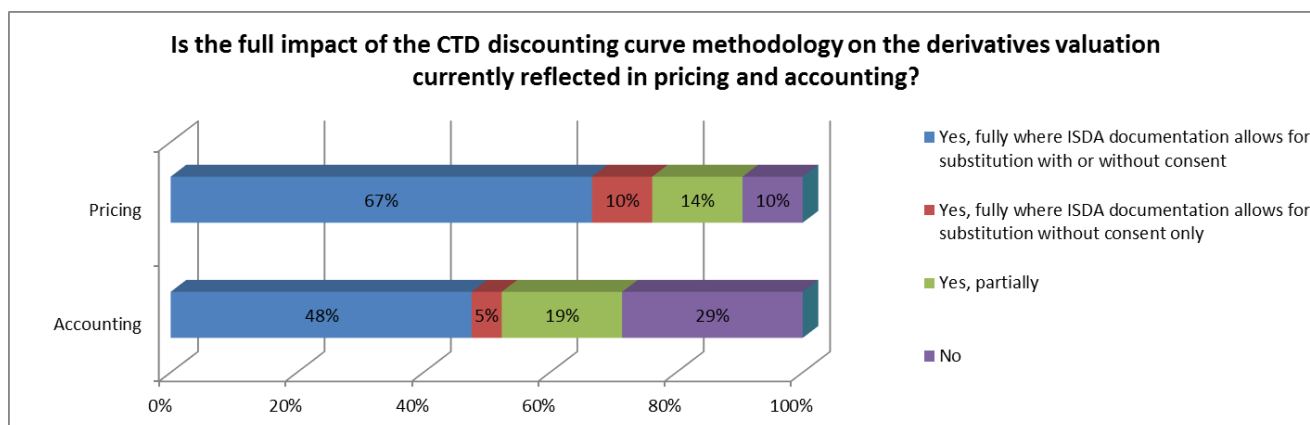


Further evolution in CTD discounting curve methodology can be seen by looking at the responses of those participants with a multi-currency CTD implementation. More than half of the participating banks with multi-currency CTD implemented in current pricing have adopted a stochastic methodology over a deterministic intrinsic approach. This rises to approximately 83% of participating banks which have future plans to implement multi-currency CTD.

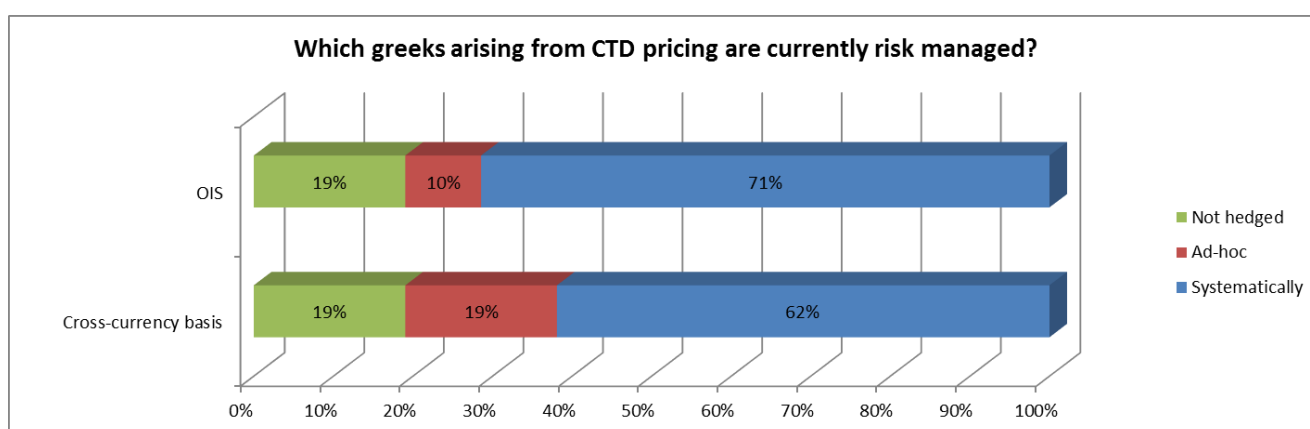
Solum notes that one participant classified as "Optimised Single Currency CTD" uses a full deterministic methodology for large PV trades, novations and step-ins.

Solum notes roughly a 50:50 split in current (and future plans) for those participating banks which model (or will model) all factors stochastically versus those which only model the discounting rate.

Approximately 75% of participating banks currently account for CTD discounting in some form, although a smaller subset of 15% currently have a stochastic valuation in their accounting. 52% of participants plan to use stochastic methodology in future, with a further 19% undecided on their plans.



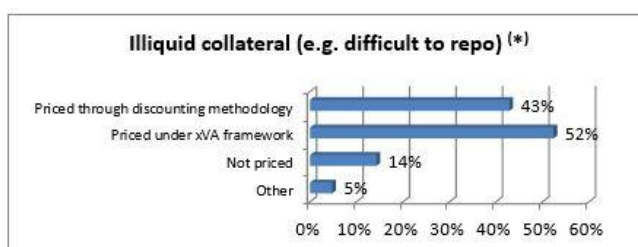
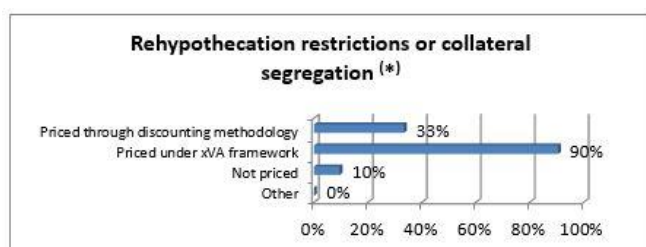
The potentially problematic issue of aligning a CTD pricing model with the right to substitute in the event of a change in the CTD collateral has been addressed by relatively few participating banks. The minority reflect CTD pricing only where collateral is substituted without consent. For those that reflect full CTD pricing with or without consent, a number of participants indicated other methodologies or governance around failed consent.



The evolution of CTD pricing presents a higher degree of risk management complexity. The majority of participating banks systemically hedge both the OIS Libor basis and the cross-currency risk. A smaller number of participating banks also commented that they manage the cross gamma between projection and discounting risks, volatilities and second order risks such as correlation.

In addition to reflecting the price sensitivities associated with differing forms of eligible collateral, participants are increasingly incorporating other CSA terms into their inception pricing. Most notably, rehypothecation restrictions on collateral, or segregation requirements that reduce or remove the funding benefit associated with collateral, are priced into transactions by 90% of participating banks. Additionally, eligible collateral which offers limited funding value, due to the lack of opportunities to recycle in the repo market, attracts a charge from a similar number of participating banks.

Solum notes that the majority of participants use their xVA framework to price these effects. Originally established as a desk solely responsible for pricing counterparty risk, it appears that the remit, having already been extended to cover FVA, is now even further integrated into transaction pricing.

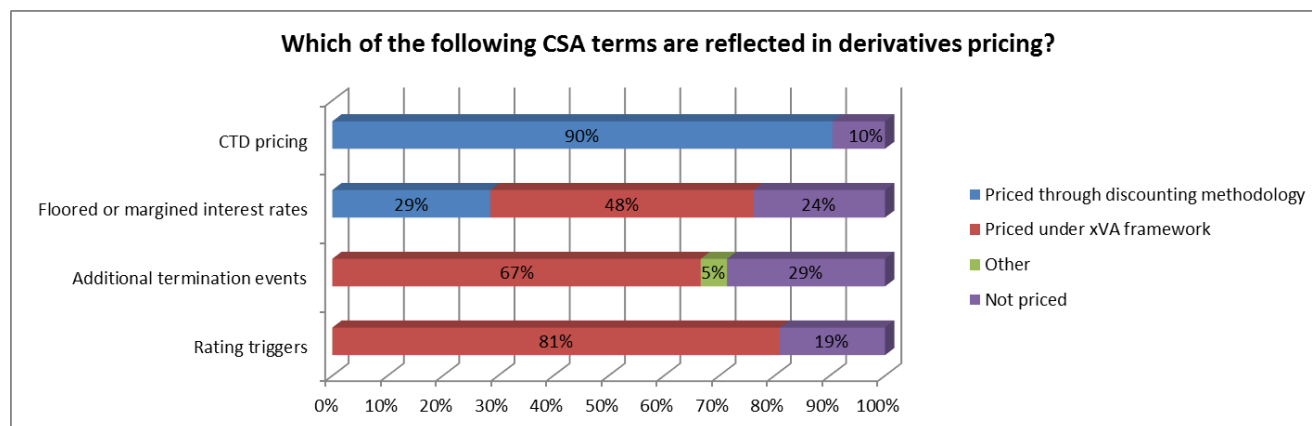


Another example of terms embedded within CSA documentation that give rise to inception pricing adjustments, are the existence of ratings trigger events (**RTEs**). The presence of rating triggers that result in changes in collateralisation, such as adjustments to thresholds or the requirement for an IA, are priced by the majority of participants. One participant clarified that where these are deemed to have liquidity consequences, they are treated as contingent xVA. Two participants classified as “Not Priced” explained that the impact is calculated as a contingent liquidity reserve by treasury.

Solum notes this approach is consistent with the Basel Committee on Banking Supervision (**BCBS**) requirement to hold HQLAs to cover stressed outflows under LCR rules.

A smaller number of participants, but still a sizeable majority, also reflect the costs of additional ATEs within inception pricing.

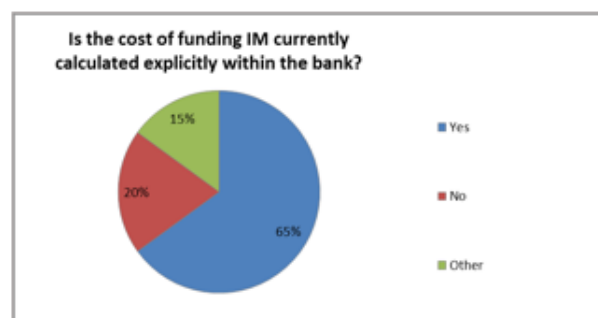
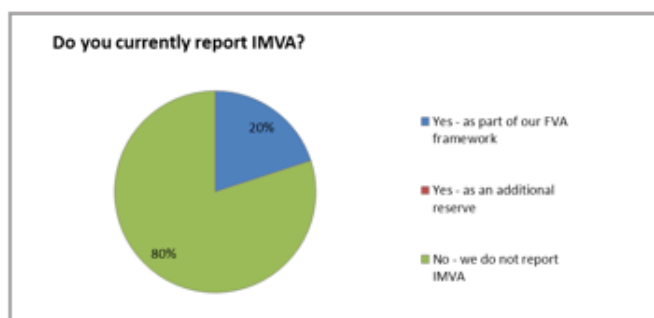
Solum notes that it is unclear as to the methodologies used for ATE pricing over and above that used for rating triggers. However Solum understands from previous survey results that this is the cost of creating additional reserves to cover the associated exit costs.



With the increased focus on total derivative costs, and to ensure inception pricing covers these costs, there has been a move to consider an IMVA representing the funding implications inherent in posting initial margin or independent amounts.

Solum notes however that the increased focus on IMVA has not led to a specifically reported valuation adjustment, although a number of participants clarify that IMVA has been implemented as part of their FVA framework.

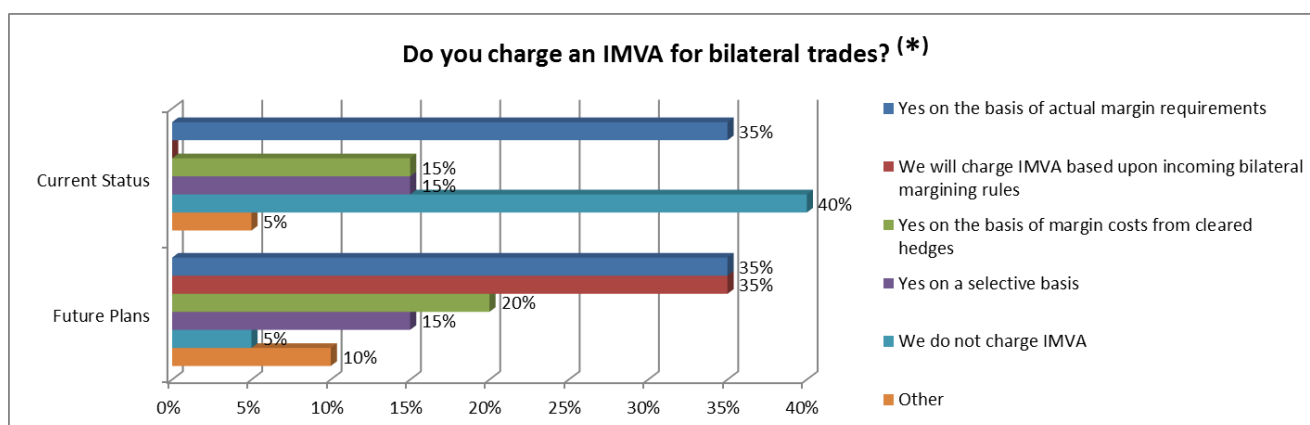
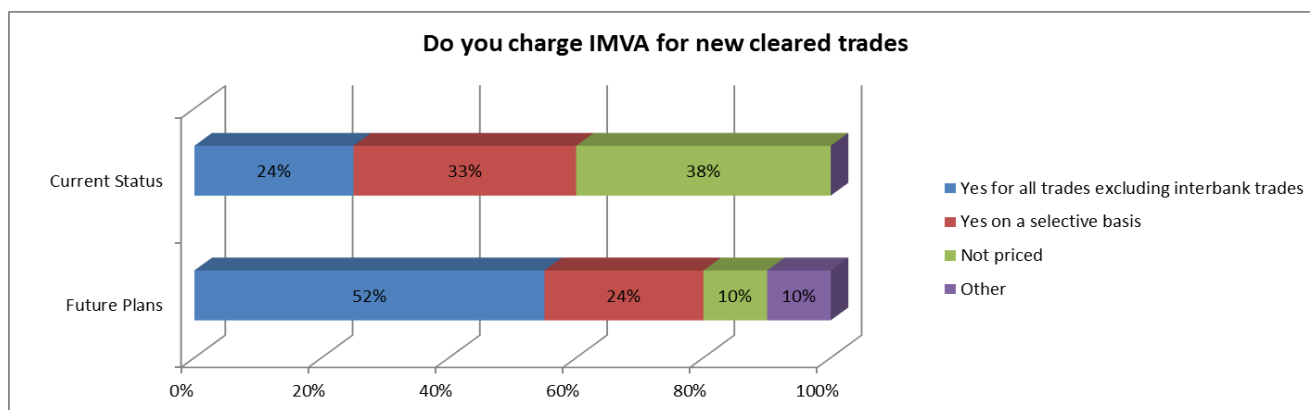
80% of participating banks currently explicitly calculate the cost of funding IM, for either all or significant exposures. Where applicable, the majority of participants confirmed that the cost of funding IM is allocated to the relevant trading desk. Two participants allocate the costs to the XVA desk and a further two participants allocate the cost to a central management book.



The pricing of the initial margin requirement at CCP’s appears to vary across participants. This leads to a mixed response as to the pricing of IMVA on cleared trades, with the majority either pricing on a selective basis or not at all. Three participants classified as “Not Priced” clarified that pricing solely reflects observable CCP prices (e.g. CME versus LCH basis).

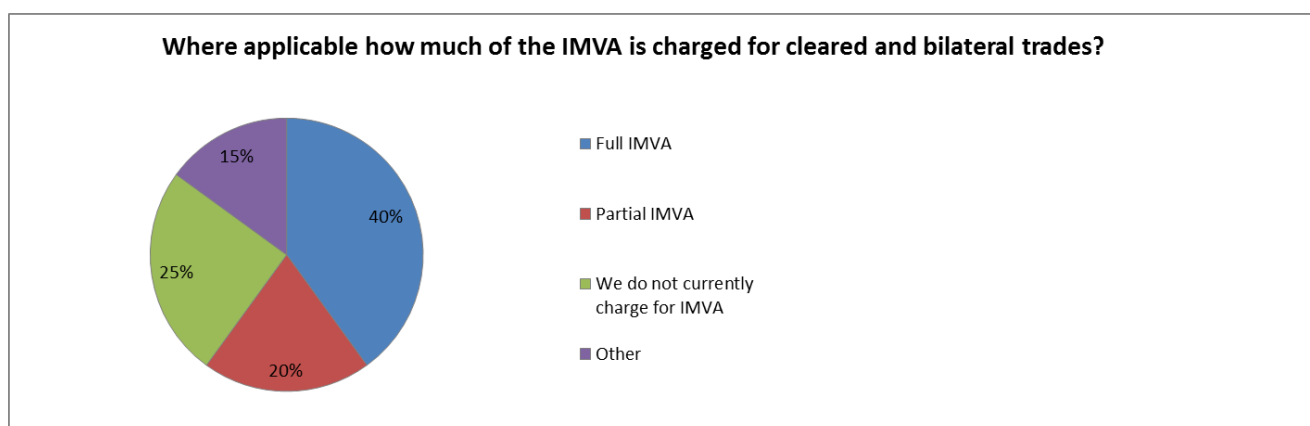
Solum notes that the selective pricing of IMVA for cleared trades may be related to the existing directionality of a bank’s portfolio at a CCP.

Pricing of IMVA is more widespread when back-loading portfolios. Two participants confirmed transactions are only considered where increases in IMVA are offset by equivalent decreases in KVA.



In the case of non-cleared bilateral trades, the same mixed approach is currently evident, although future plans show a higher degree of market alignment where IM costs will form part of inception pricing. A number of participants expect their approach will change, based on the finalised BCBS rules surrounding implementation of bilateral initial margin requirements for non-cleared trades.

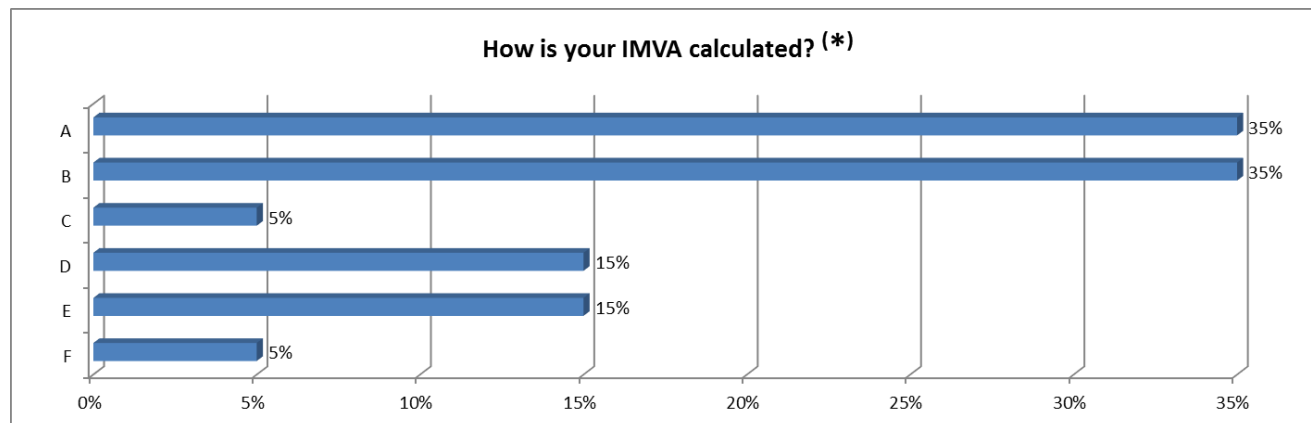
Where IM pricing is applicable, there also appears to be a wide variation in the amount of IMVA charged and in the calculation methodology. Although a number of participants responded that a full IMVA charge is applied, two confirmed that the charge is adjusted to reflect the expected life of the trade. The issue of materiality also arises with a number of participants commenting that they only apply an IMVA charge where there is a significant effect. One participant additionally commented that they may charge bilateral clients for IM incurred as a result of a cleared hedge.



When deciding what maturity term to be used when calculating IMVA funding costs, again there is a mixed approach. There appears to be an even split between participants which apply a funding cost to IM based on the actual lifetime of the trade,

versus those which apply a specific maturity time horizon in the funding cost calculation. One participant confirmed the use of a one year maturity and another confirmed the use of an internally defined maturity cap. One participant clarified that they apply different time horizons dependent on whether the trade is bilateral or centrally cleared. The majority of participating banks however confirmed that there is consistency in approach between IMVA calculations and the FVA methodology.

Solum notes that the adoption of a specific time horizon, rather than a modelled maturity for funding costs of IM, is most probably linked to the bank's approach to NSFR.



A: Based upon a generic cost of funding until maturity of relevant trade

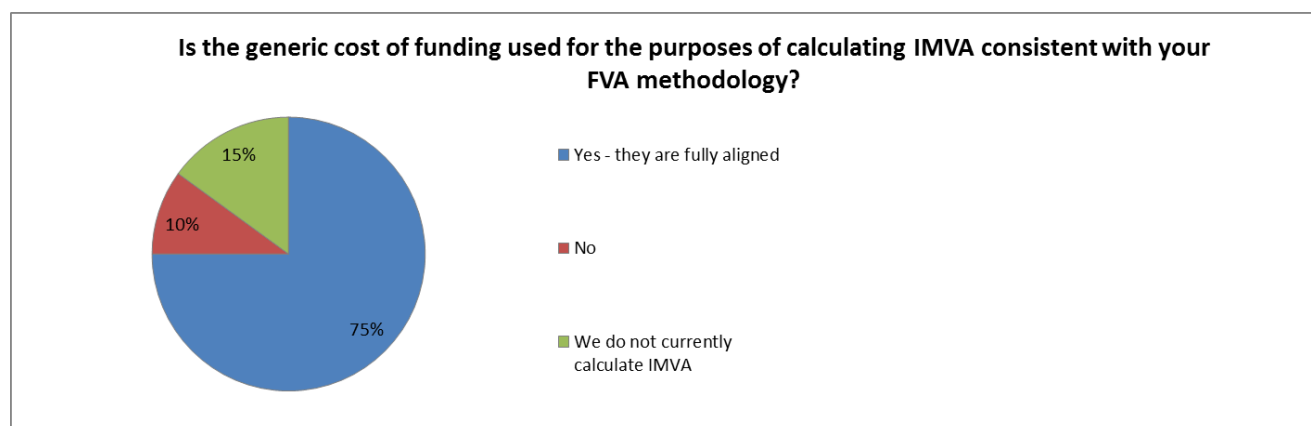
B: Based upon a generic cost of funding to a specified time horizon

C: Based upon a clearing house specific cost of funding until maturity of the relevant trade

D: Based upon a clearing house specific cost of funding over a specified time horizon

E: We do not currently calculate IMVA

F: Other



2.3 Collateral Optimisation

Recognising that the holding of collateral not only reduced counterparty credit risk, but could also be used to fund unrealised derivative mark-to-markets (**MtM**), caused a change in market methodology for the pricing of derivatives. Prior to the crisis of 2008, the low level of Libor-OIS spreads and the availability of cheap internal financing meant little attention was paid to the cost of posting collateral or the structure of collateral documentation.

The first manifestation of this change was the movement to OIS discounting where collateralised trades were judged to be self-funding at OIS rates. Market adoption of this model accelerated when the CCPs also moved to OIS discounting. Further refinement to the methodology recognised the optionality embedded in supporting documentation where more than one type of eligible collateral was permitted, leading to the adoption of CTD discounting. Subsequent refinements have resulted in the utilisation of discount curves aligned with financing curves for non-cash collateral.

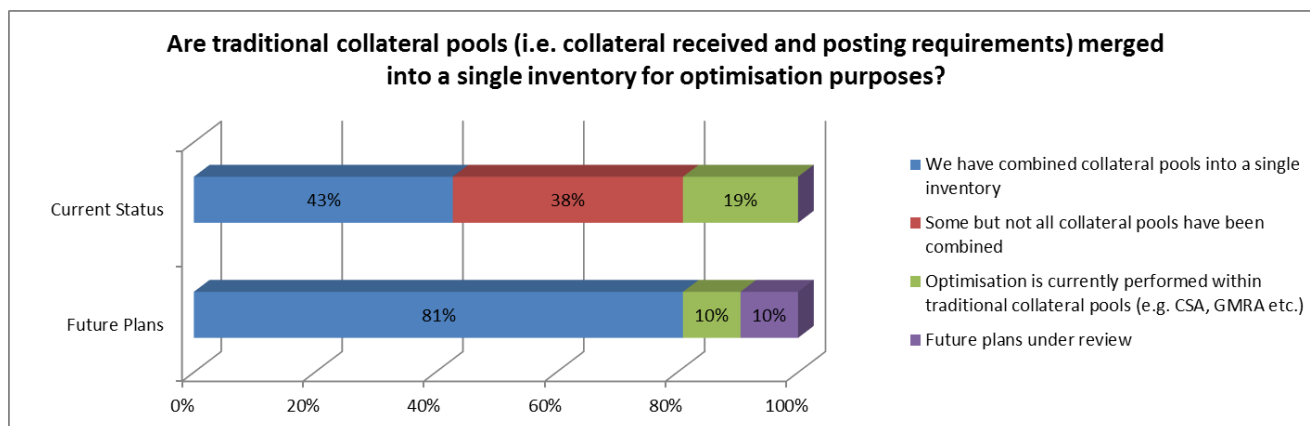
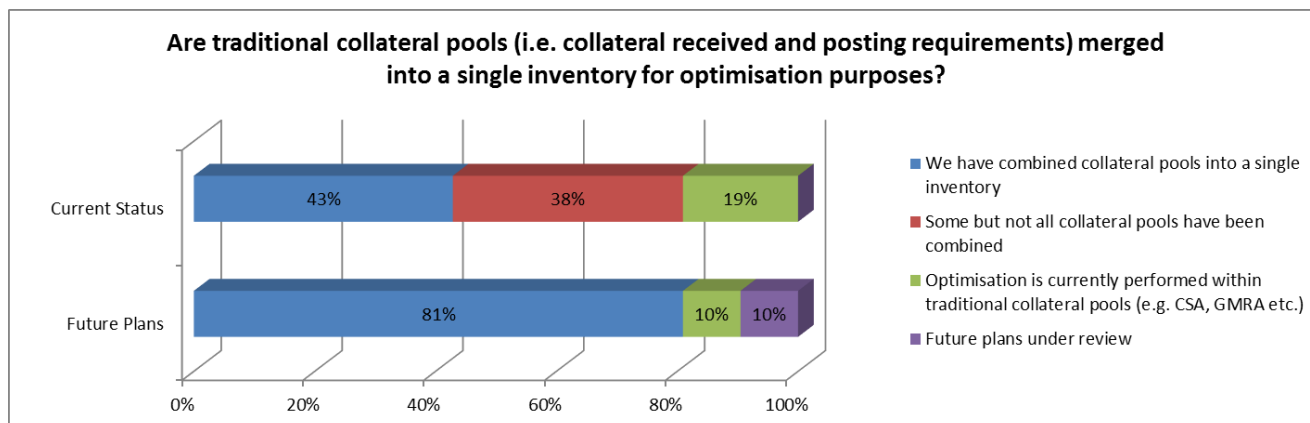
The value of eligible collateral is now inextricably linked with derivative pricing. This has led to collateral management functions becoming more price aware with respect to collateral posted or received and in many cases coming under the

direct control of front office trading groups.

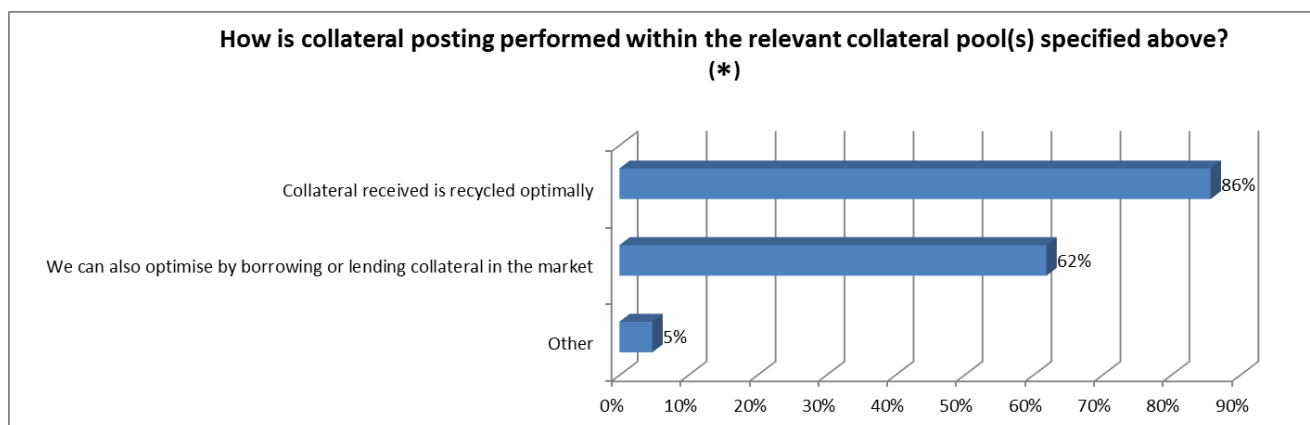
Traditionally collateral management functions have operated in netting set silos, aligned with collateral documentation e.g. CSAs, GMRAs, ETDs etc. Recognising the pricing value of collateral has caused a sizeable change in trading set-ups. Institutions have attempted to merge collateral pools in an attempt to monetise the differing values inherent within collateral.

All but one participant confirmed that they have or are planning to establish a centralised collateral optimisation function. Movement to combine all collateral held into a single pool appears to be work in progress as 58% of participating banks either continue to operate within collateral silos, or have only combined some collateral pools. The direction of travel is however clear, with 81% planning to merge all pools in future plans.

Establishing a centralised function with a clear mandate and a robust internal transfer pricing methodology were cited as key requirements to successful optimisation.

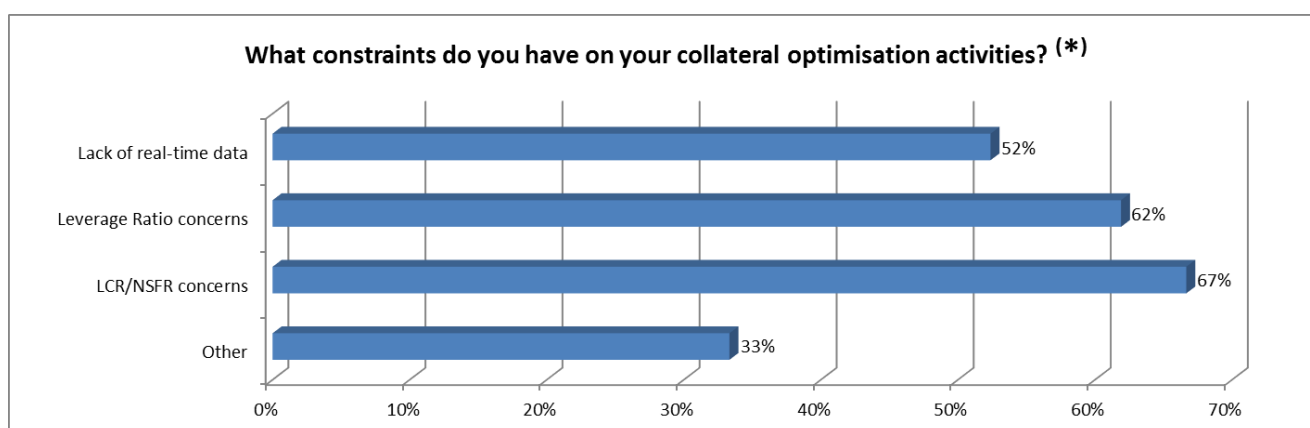


86% of participants have adopted a disciplined approach to the recycling of collateral on an optimal basis. Optimisation via collateral transformation trades also figures highly, with 62% of participants confirming additional market trades are used to optimise collateral.

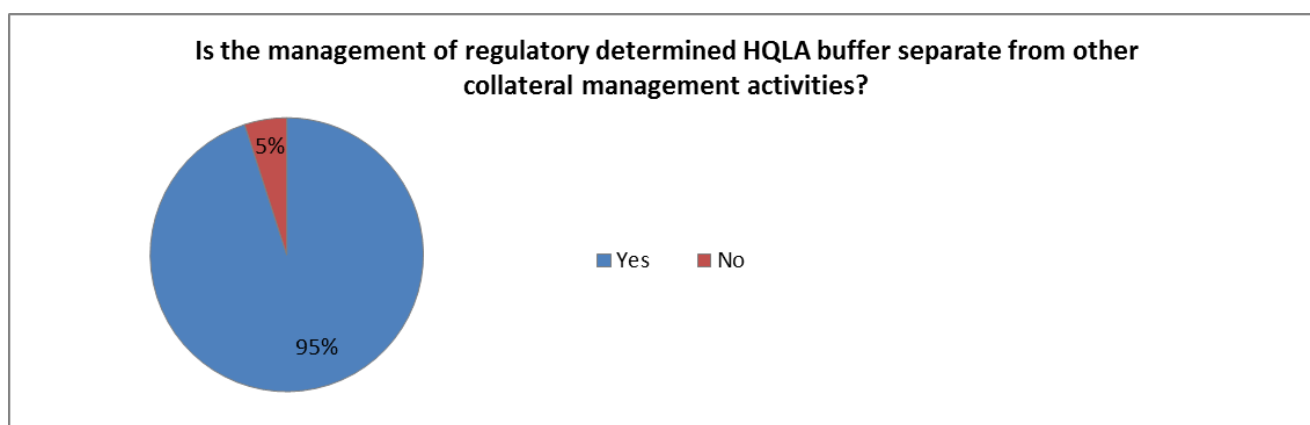


A number of participants commented on the operational challenges associated with establishing an optimised, merged collateral pool, ranging from operational capacity to internal hurdles. Further structural difficulties were also cited, notably a lack of integration with Treasury and the operational difficulties associated with transferring collateral across asset classes.

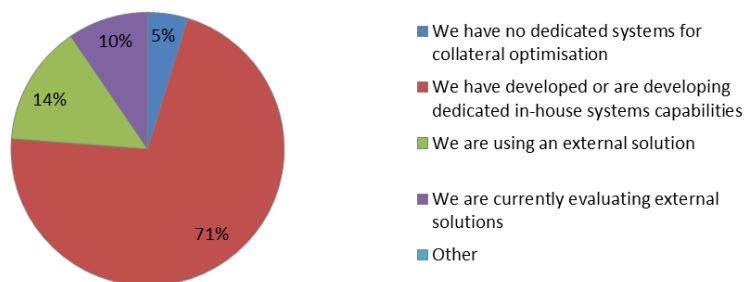
Concerns were also raised with respect to the challenge to optimisation activities as a result of balance sheet and liquidity constraints. Regulatory changes such as the introduction of the leverage ratio, LCR and NSFR have hampered activity.



One collateral pool that seems to remain exempt from any attempt to integrate collateral is the stock of HQLAs. 63% of participants state that the HQLA pool is inaccessible for optimisation purposes. Those that responded that the HQLA buffer was accessible noted that a high degree of restriction remained on optimisation activities to ensure the pool remained unencumbered.



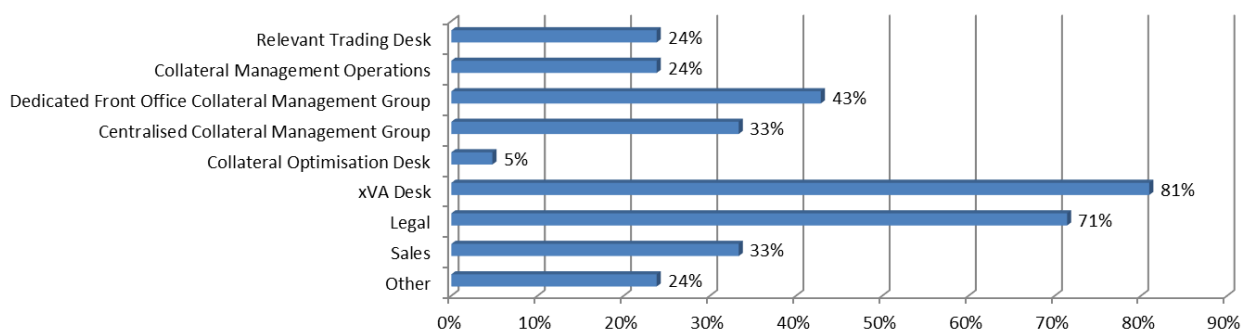
What systems are you using to support your collateral optimisation efforts?



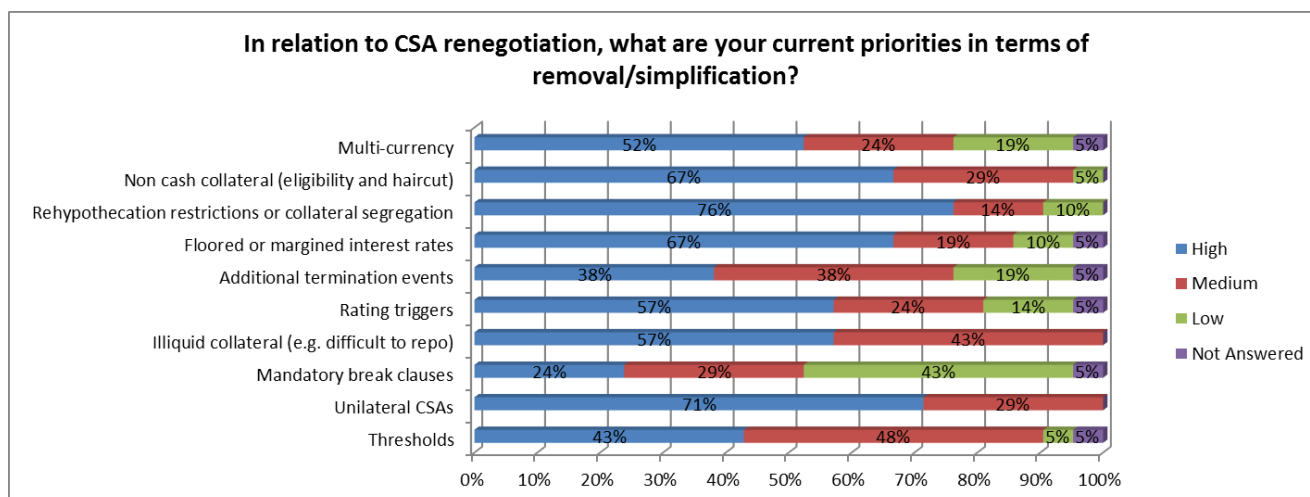
2.4 CSA Documentation

As already seen, collateral management can be a complex and diverse area. This is reflected by the wide range of stakeholders within an institution that have an interest in the CSA agreements. The results illustrate that the process of CSA renegotiation is predominantly managed by an xVA desk and/or a specific collateral management group. Many other areas of the bank then have an input, especially Legal, which was selected by over two thirds of participants. “Other” areas given included Risk Management, Funding and Liquidity Management, Credit Risk, Market Risk and Treasury.

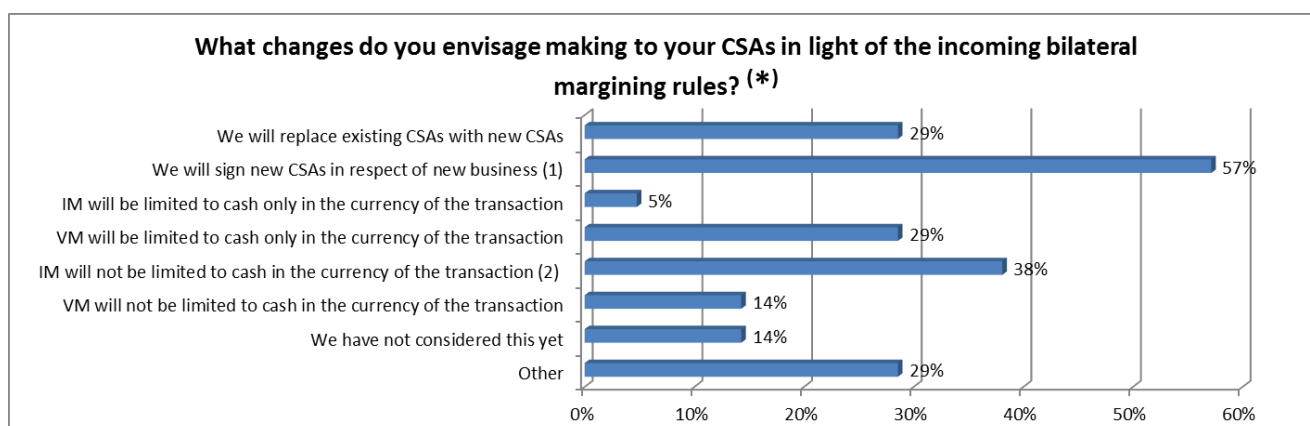
Who is responsible for CSA documentation changes and renegotiation? (*)



Considering the shifting regulatory environment, perhaps it is not surprising that most of the terms within the CSA are considered as high priority by a lot of banks when it comes to restructuring. One participant specified that their key driver of simplification efforts is to bring CSAs in line with un-cleared margin requirements, as stipulated by EMIR. Simplification of CSAs results in easier pricing, simpler processing, lower risk and fewer collateral disputes. Elements that are most problematic to price, and therefore manage, are prioritised for elimination from the CSAs. These would include non-cash collateral, rehypothecation restrictions, collateral segregation, floored or margined interest rates and unilateral CSAs.



Recent revisions by BCBS specify that from 1st September 2016 onwards, margin requirements for non-centrally cleared trades will be phased in. Despite the approaching deadline, there are still unresolved issues, with at least one participant awaiting the release of the second European Supervisory Authorities consultation paper. Most participants however have made decisions either to replace existing CSAs, or at least sign new CSAs with respect to new business. A small number of participants are yet to consider this development.



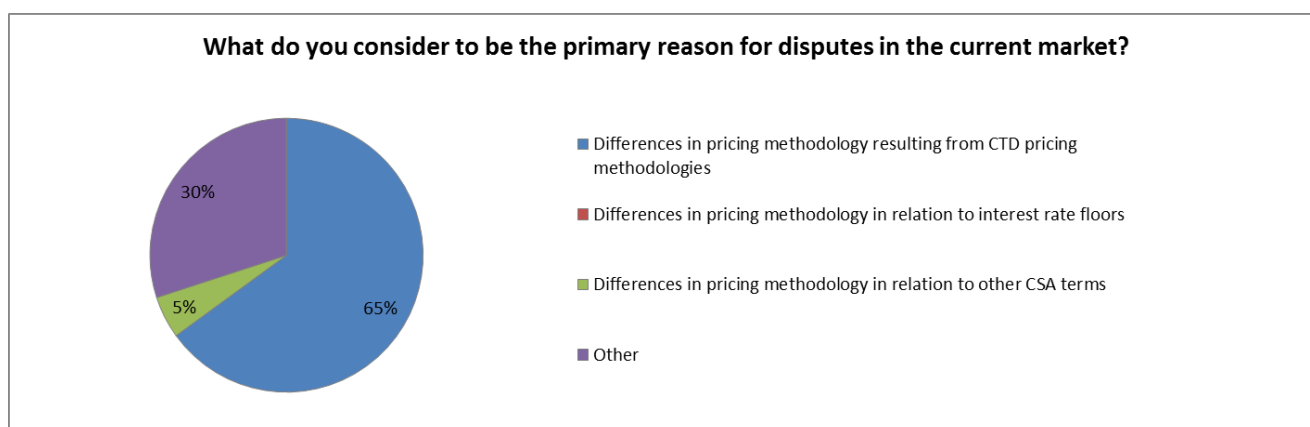
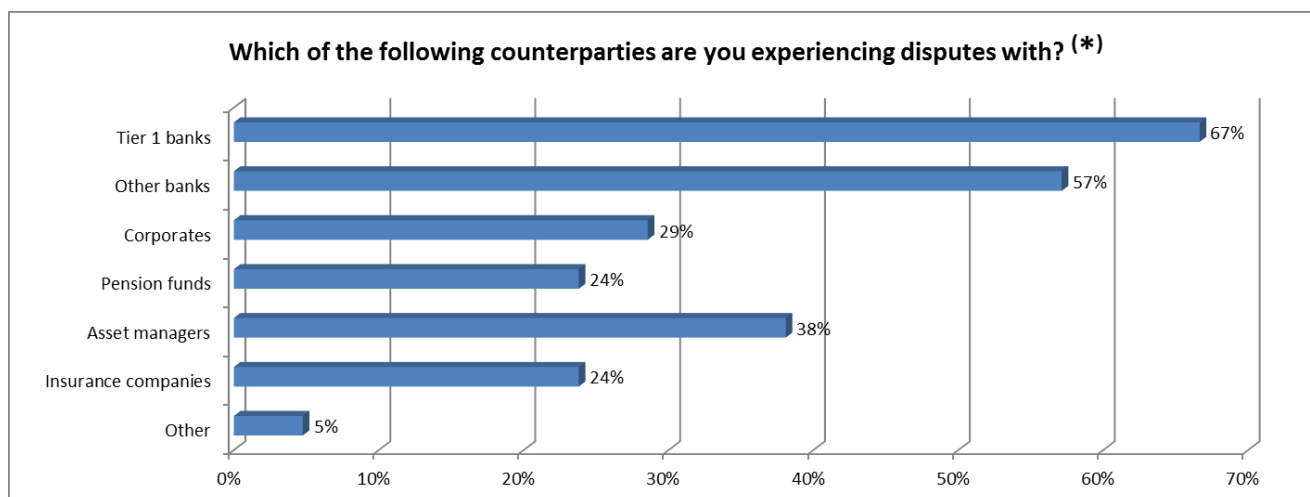
(1) Maintaining our previous CSAs for legacy trades

(2) And relevant haircuts will be applied

2.5 Regulatory Considerations

Part of the EMIR, which went live in September 2013, stipulate that processes and procedures must be in place for the recording, monitoring and resolution of disputes. Disputes valued at over 15 million Euros, and outstanding for 15 business days, or more, must be reported to the relevant regulatory authority. From the results there seems to be some ambiguity about what constitutes a dispute, rather than merely a discrepancy, and therefore needs to be reported. It maybe is not surprising then, that there is a 50/50 split between participants which say they have reported disputes and those which say they have not. This is an area in which Solum expects to see further clarification in the future.

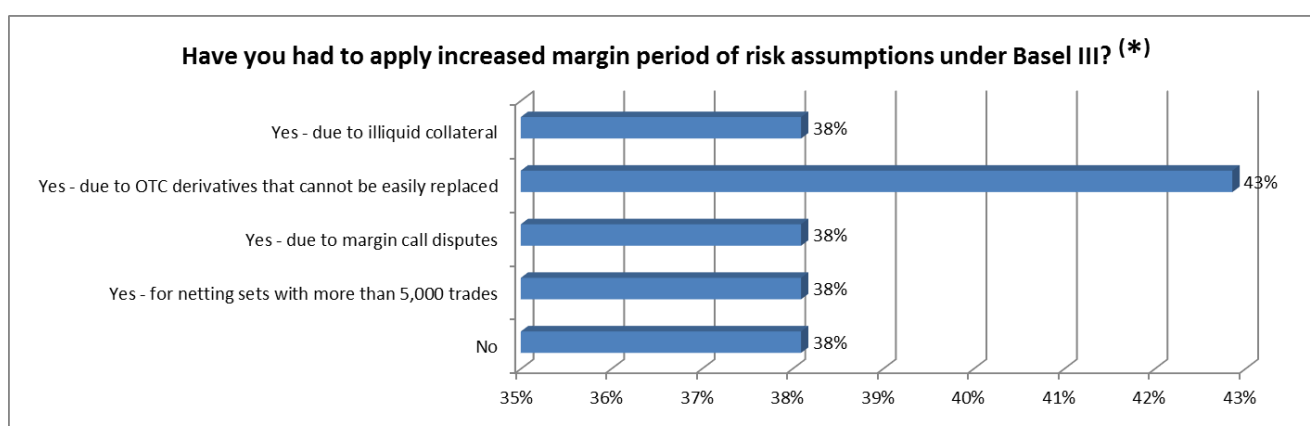
Perhaps more instructive is the breakdown of which type of counterparties participants are experiencing disputes with. 67% selected Tier 1 banks, and 57% selected other banks. This illustrates there is still a lot of work to be done to achieve best market practice. There are clearly inconsistencies between the pricing models at different financial institutions. This view is reinforced by 65% of participants believing that disputes are caused by differences in CTD pricing methodologies. The level of disputes drops considerably when considering end users such as corporates and pension funds. Solum perceives this to be down to end users not having the same complex pricing systems as banks and therefore being more inclined to accept a discrepancy to their own valuation.

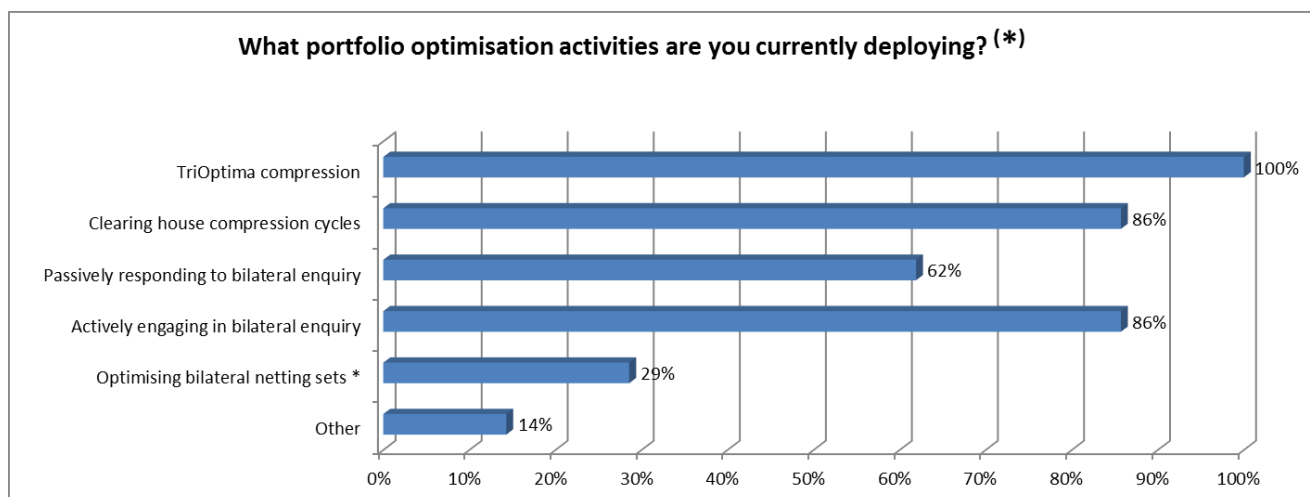


Basel III regulations include requirements regarding the margin period of risk (**MPOR**) for collateralised trades. Banks have to increase their MPOR where they have illiquid derivatives, illiquid collateral, netting sets of over 5000 trades or have had more than two disputes with any counterparty, lasting more than the current MPOR, within the previous two quarters.

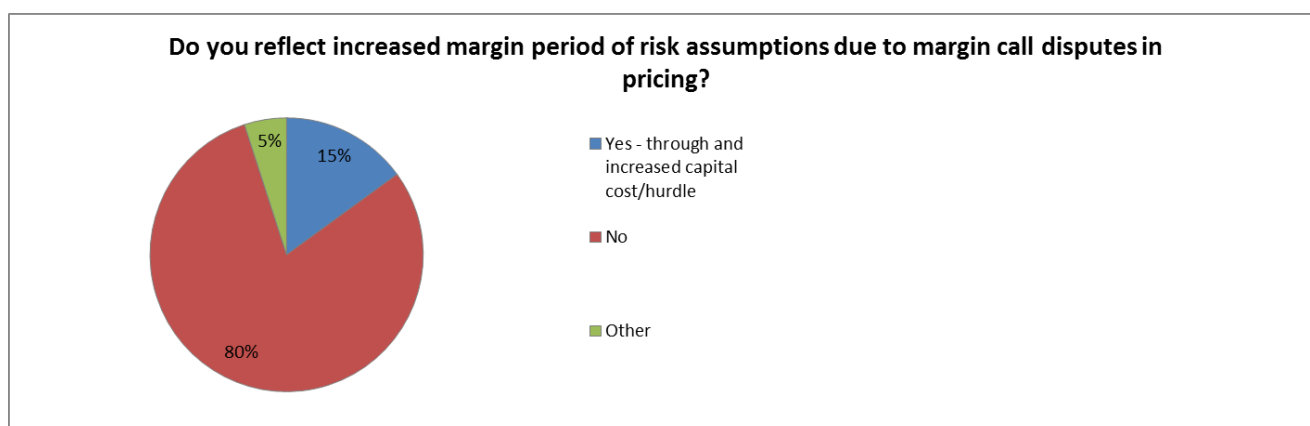
EMIR stipulate that financial and non-financial counterparties that have over 500 outstanding, non-centrally cleared derivatives contracts must analyse the possibility of conducting trade compression exercises at least twice a year.

Solum notes that only 38% of participants have had to apply increased MPOR assumptions under Basel III for netting sets over 5000 trades. Having surveyed large banks, Solum would have expected a higher percentage, but believe the lower than expected percentage could be reflective of the success of trade compression cycles and portfolio consolidation. Such compression cycles are extensively used, which should be expected due to the possible consequences of inaction. As one participant explained, due to the rules around large netting sets and disputes, the MPOR could theoretically double, twice.





The vast majority of participants do not reflect increased MPOR due to margin call disputes in pricing. Solum believes this illustrates that a front office trading desk is not the most efficient place for collateral optimisation to take place. This is further reinforcement of the responses to the section on “Organisational Set Up”, where “relevant trading desk” was rarely shown to have influence over collateral management. The exclusion from pricing does raise a further question as to where the cost of any increased MPOR is realised.

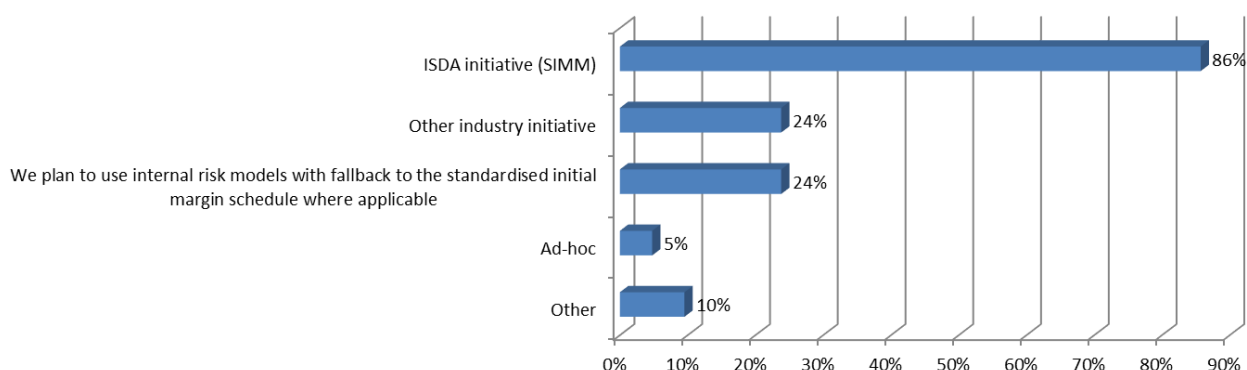


2.6 Other Considerations

The EMIR, introduced in 2012, covers the risk management procedures for counterparties in non-centrally cleared OTC derivatives. These regulatory technical standards (**RTS**) prescribe that for bilateral deals, counterparties must exchange initial and variation margin and have rigorous and robust dispute resolution in place.

In December 2013, ISDA proposed a standard initial margin model (**SIMM**) which could be adopted by market participants. By using an industry recognised SIMM, counterparties will hope to avoid most disputes that would arise were each institution to use its own internal margining model. From the results of the survey it can be seen that ISDA’s initiative will be widely used, with 86% of participants responding that they would be utilising it.

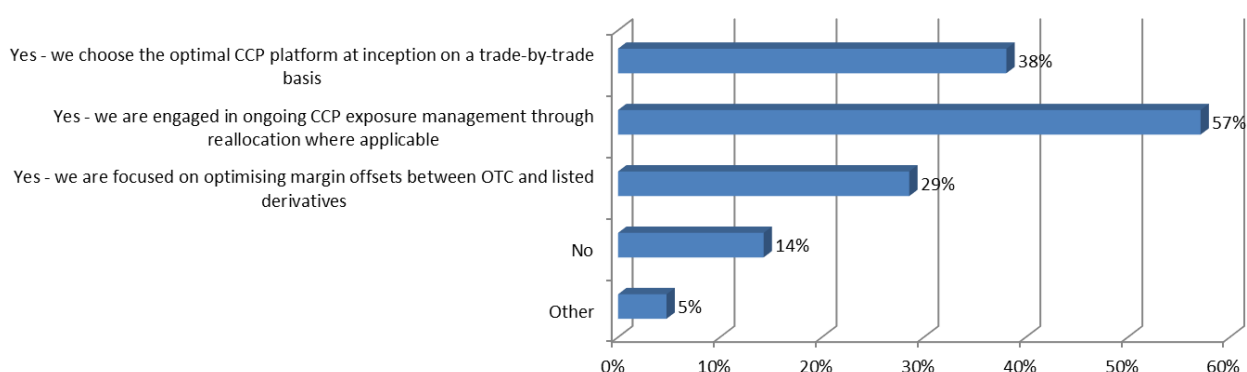
How do you plan to agree upon bilateral initial margin? (*)



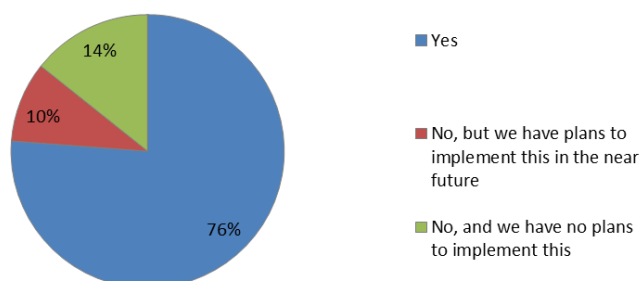
Due to the aforementioned developments of Basel III and EMIR, and the subsequent portfolio optimisation that has taken place, the use of CCPs has increased dramatically in recent years. Whilst this has provided counterparty credit and bilateral capital benefits, it has brought about new issues as a consequence. Banks are increasingly aware of, and managing, risks associated with the use of CCPs, with 76% of participating banks having a dedicated group established to handling these risks, and 86% partaking in some form of CCP optimisation.

CCP risk was highlighted recently by the emergence, and subsequent widening, of a spread between two major CCPs. The causes and consequences of this basis are widely debated, but the result is likely to be an even more pro-active approach to CCP risk management.

Are you engaging in active CCP optimisation? (*)

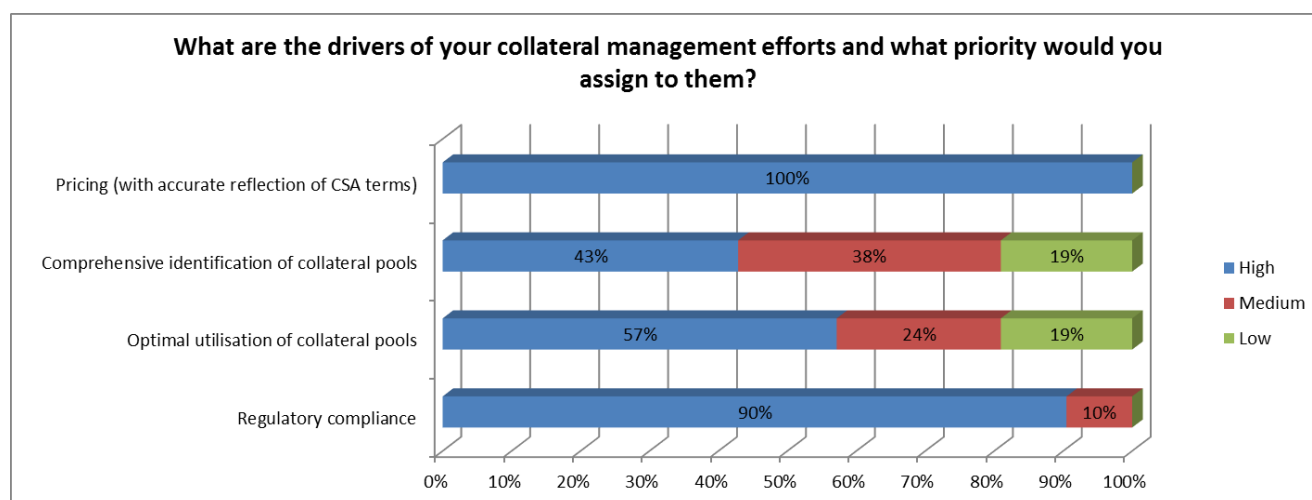
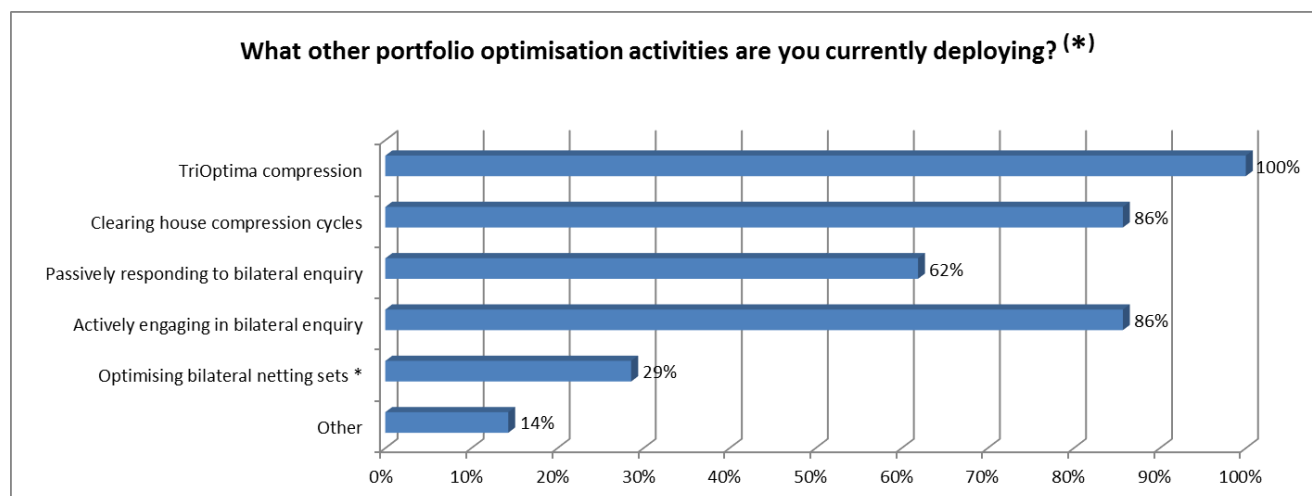


Do you have a dedicated group responsible for risk associated to CCPs?



As previously established, portfolio optimisation is highly important. This is well illustrated below by the fact that 100% of the participating banks are using TriOptima compression cycles. All participants also selected multiple other methods that

they are engaging. The impacts of such optimisation include; beneficial effect on the leverage ratio in line with Basel III stipulation, lowering counterparty credit risk, lowering the need to post bilateral initial and variation margin and reducing operational risks and costs.



Conclusion

The role of collateral management has undergone a material change in terms of focus and relevance. The use of collateral as a risk mitigant has evolved from the simple binary state of being either collateralised or uncollateralised, to a differentiated element of risk neutral pricing. The demand for collateral is increasing, and with it the need to optimise activities from a pricing, regulatory and prudent risk management perspective.

The need for efficient inventory management, and the mobilisation of all eligible collateral across all asset classes, is paramount. Attempts to collapse the silo based pools into a single repository with allocation of collateral on CTD principles are widespread, but with a significant degree of variance amongst participants. Internal operational inefficiencies, structural issues and lack of mandate are hindering a holistic collateral view being taken.

CTD pricing itself is evolving with liquidity and financing costs now a consideration. The market also seems a long way from agreement on the price of the collateral option. The MPOR effect on capital as a result of disputes does not seem to have a widespread impact on pricing at this point.

It is not surprising that the current cost of IM tends to fall within the xVA framework as a subset of FVA. However, the approach to IMVA inception pricing varies across participants, although it is set to grow in importance once bilateral margining rules are in place. The recent large move in the CME / LCH basis is a stark reminder of how IM imbalances can have a significant impact on pricing.

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