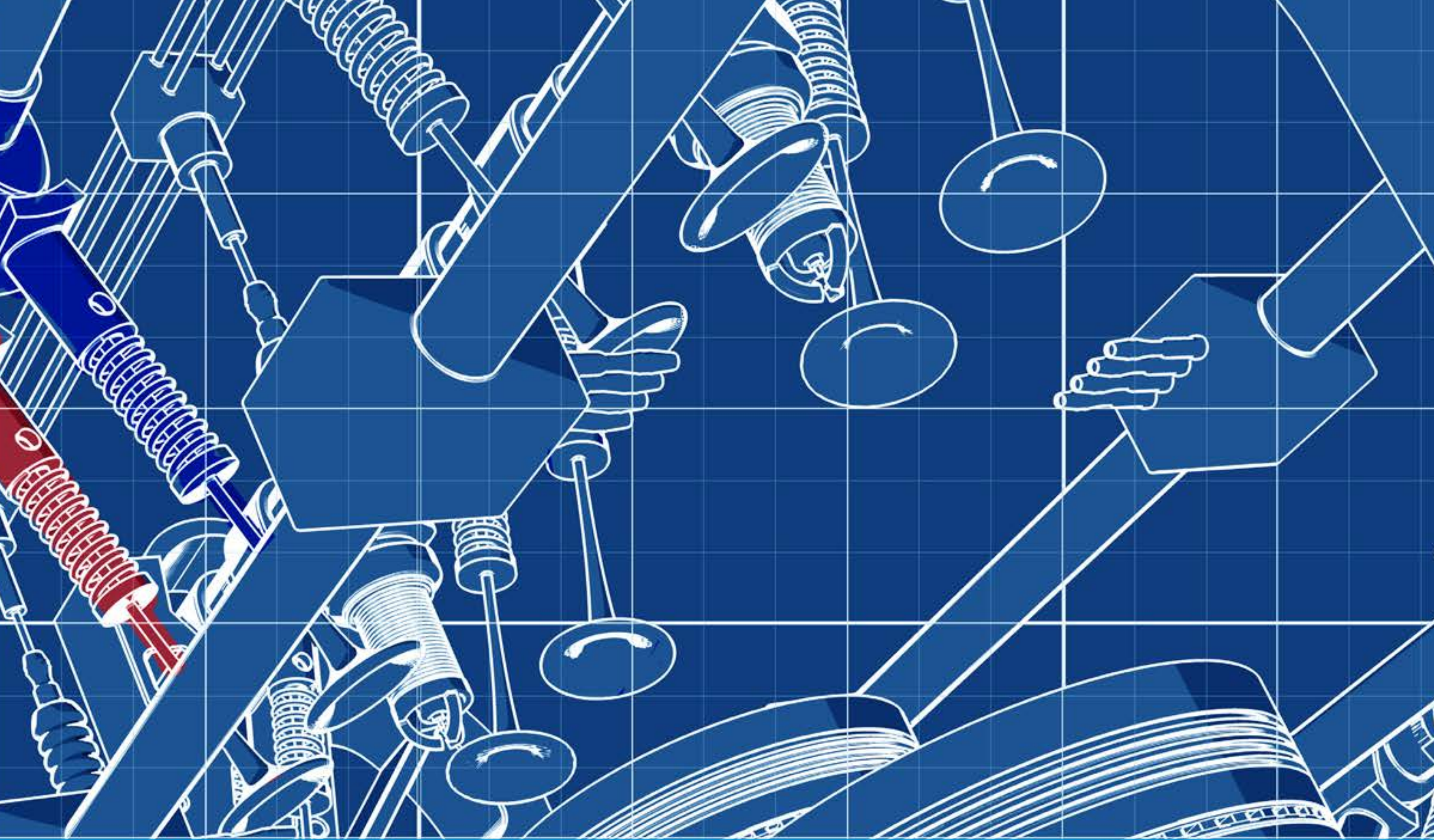
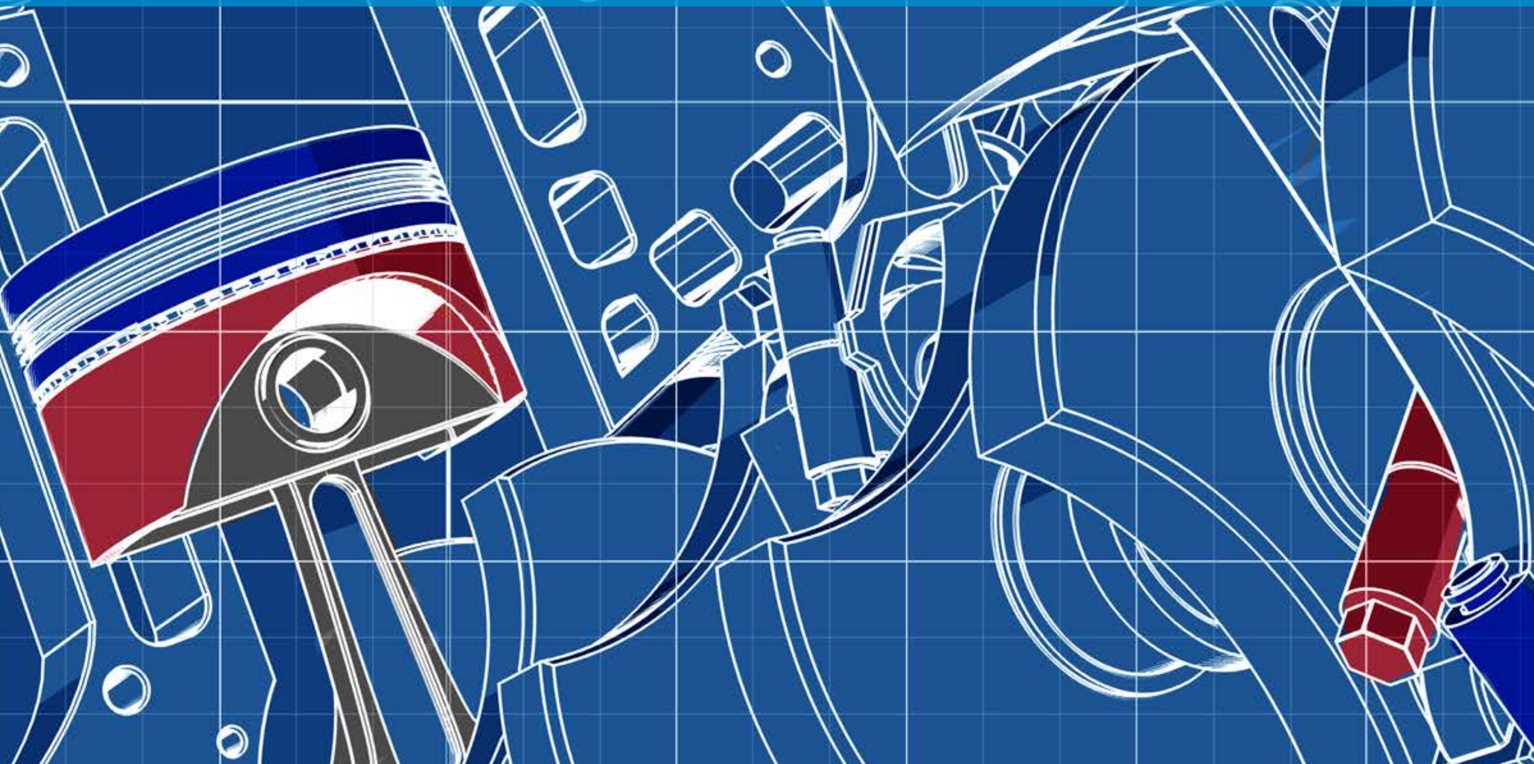


OPTIMISE PRIME

It's a tough regulatory and cost environment, but through innovation, collaboration, and adaptation, securities borrowers and lenders are learning to optimise



Where and how are securities lenders and borrowers optimising their collateral?

Stuart Abraham: There definitely appears to be an opportunity for those with the balance sheet capacity and appetite for agency lending desks with the right technology to help the givers and takers of cash to optimise their activities, by helping them across all their derivatives activity. Whether cleared or uncleared, they can generate cash quickly and cheaply through reverse repo and clever and efficient selection and movement of securities. On the one hand, they are minimising the funding costs to meet their initial and margin requirements, and on the other, they are helping maximise returns on any non-cash collateral they hold that they may not have been making best use of up until now, and arguably need to very quickly find ways to mobilise this. Cash may be king, but for how much longer?

Tracey Adams: Considering the conceptual buzzword that collateral optimisation was five years ago, most institutions have now recognised the scale of the post-regulation collateral challenge and have embarked on the collateral optimisation journey. Certainly most securities lenders and borrowers will have some sort of optimisation tool to manage collateral requirements through the use of their current assets. That said, the degree of complexity around optimisation varies from institution to institution and I envisage that there will be an ongoing effort to improve the way in which optimisation tools work, mainly around inputs (data feeds) and algorithmic complexity. Outside of optimisation, at Lombard Risk we are also seeing a re-emerging focus on collateral transformation and a growing interest in the use of money market funds as instruments of collateral.

Michael Albanese: As regulations evolve, collateral providers are defining 'optimal' on an increasingly individual basis. Previously, optimal would typically have been the cheapest to deliver, or similar. Now, what is optimal differs for each institution, given its unique binding constraints. As a result, collateral providers need better tools to understand their intraday collateral allocation and increasingly want to be able to customise their optimisation parameters.

We believe the increased complexity is creating greater demands on all parties and requiring stronger partnership between the collateral agent and its clients. For example, our clients have asked for sophisticated allocation options that will allow them to allocate specific collateral to specific counterparty accounts for a defined period of time. We call this 'client-defined allocation', and it gives providers a tremendous amount of control and flexibility while meeting collateral takers' eligibility, haircut and concentration rules. Not surprisingly, those rules have become more detailed in response to market and regulatory changes.

Ted Allen: Many of our securities lending clients leverage the capabilities of the latest generation of collateral optimisation systems to implement automated processes for optimising collateral allocation. This requires a consolidation of inventory, preferably in real time, and configuration of optimisation algorithms to consider the optimal sourcing of the assets across lenders and internal desks. Collateral transfer pricing models work as inputs to the collateral optimisation, to automate the booking of loans and borrows between collateral consumers and providers, and ensure the cheapest overall funding cost for collateral.

Martin Seagroatt: Securities finance has become a key function for optimising collateral in recent years. As a result, one of the market trends we are seeing is a need for global inventory management projects. This is an important first step in collateral optimisation. Once a firm has a clear real-time view of global inventory, including pending and settled positions, it can then start to integrate this with

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its exposures across business lines and its collateral agreements and schedules.

This makes it much easier to take a forward-looking view of future collateral requirements. From there, the firm can more easily identify internal and external sources of collateral, unlock idle assets and then mobilise them to where they are needed. This provides a valuable tool for forecasting liquidity supply and demand, responding to client needs and meeting the requirements of Basel III liquidity coverage ratio (LCR).

The next step is to assign costs to collateral assets and ensure, for example, that securities trading special aren't used to collateralise trades where lower cost collateral could be used instead. This co-ordination between the securities finance and collateral desks, driven from a single global view of inventory can provide huge benefits. Key to this is an integrated securities finance and collateral management solution.

Automated proposals of cheapest-to-deliver assets for collateral usage is the logical progression from this, along with automation and optimisation around collateral recalls and substitutions. For some firms, more complex algorithmic optimisation can provide additional benefits.

For the buy side, identifying optimal collateral to pledge against derivatives transactions is a key requirement. Holding large amounts of cash for variation margin is not desirable for the buy side, due to the drag on returns it creates.

Locating non-cash assets for margin, and potentially transforming these into cash via securities finance trade structures, is also an important part of optimisation for buy-side firms. Likewise, the ability to handle the complexity of non-cash collateral can allow non-cash to be pledged were appropriate. Once these derivatives collateral needs have been met, the firm can then look at excess long inventory that it can finance to increase returns.

How hard up are desks? Are they squeezing enough from their reserves? What more can they do?

Abraham: You'd have to have been living under a rock to not have noticed that margins are being squeezed, balance sheets are shrinking and desks are struggling with spiralling costs of legacy infrastructures and falling volumes and revenues. What more can they do? Well everyone is trying to do more with less, optimising the use of scarce resources and maximising the returns when the opportunity arises. There is an argument that simply judicious use of cash and non-cash collateral is yielding significant enough returns without huge expense on complicated algorithms and models to identify the cheapest to deliver assets.

Add to this optimal use of collateral by consolidating into a single view all of your margin obligations across all the asset classes that you are active in, and across all the counterparts you have a relationship with, and combine this with a single view on your complete available and eligible cash and non-cash collateral inventory. That way you can meet those obligations, maximising returns and minimising costs. Are people doing enough? Probably not. Are there tools that exist to help them do more? Yes, absolutely.

Adams: Basel III's LCR and net stable funding ratio (NSFR) have and will continue to squeeze desks. As the cost of collateral increases and the requirement to hold increasing amounts of unencumbered high-quality liquid assets (HQLAs), that is, high liquidity and credit quality, is introduced, many banks are having to adapt. In terms of post-trade measures, what forms the strength and backbone of an institution's ability to manage collateral pressures is the further centralisation of inventory and liquidity funding functions across desks or products. This gives firms a view on forecasting, maturity ladders and funding diversification, which will in turn allow for greater opportunities around optimisation and less liquidity wastage. In terms of doing more, institutions are now also looking at pre-trade optimisation, adopting more stringency around portfolio analysis, stress testing and what-if analysis. Additionally, institutions are looking at different trading strategies such as 'evergreen' structures, which allow dealers pre-optimising capabilities.

Albanese: While we aren't necessarily seeing the collateral 'squeeze' that was discussed a few years ago, we do see significant changes to how desks behave. A lot of the traditional silos have been broken down as desks manage their activities, collateral, and capital more holistically on a global level.

This manifests itself in a number of ways. For example, many firms are rationalising their legal entities in order to manage local activity, increasing their ability to address fails with local in-market substitutions. Cash borrowers are increasingly interested in deploying collateral held onshore in local markets and are pushing for more onshore liquidity. And finally, we see a trend of sourcing collateral internally before it is deployed externally.

Allen: Many firms turn to us as technology providers to help with optimising inventory utilisation. In certain cases, global centralisation is not always effective or possible due to barriers between business and geographical silos. Creating a centralised technical and organisational environment can be key to reducing overall collateral costs, but these natural barriers can be difficult to overcome. Some examples of these difficulties come from an inability to optimise across CCPs, triparties, bilateral counterparties and regulatory buffers. We have seen clients make significant cost savings when considering all of these requirements holistically.

Seagroatt: The continuing low-interest rate environment and quantitative easing programmes are reducing opportunities for market participants. However, this will not carry on forever and firms need to position themselves for when rates do rise again.

Regulatory change is also causing cost pressure. This is leading to a close examination of how operating costs can be reduced to maintain profitability. Minimising collateral costs through optimisation is one way to do this, along with a more sophisticated analysis of balance sheet, liquidity and capital consumption for given trading activities.

A more holistic view of the costs of servicing customers across different business lines is also leading firms to quantify which clients are consuming liquidity, balance sheet and capital, compared to the value they generate.

Firms are also seeking to reduce costs by replacing multiple IT systems that have been bolted together over the years with a single system solution to rationalise IT spend. Hosted solutions can also offer benefits in reducing IT footprint.

Are you seeing any specific regulatory requirements on collateral have unintended consequences?

Abraham: Staggering implementation of the same rules in different jurisdictions is never going to yield positive results.

There have definitely been moves afoot to shift trading relationships to entities outside the immediate scope of the first regulatory go-lives in the US and Europe. It's further splitting liquidity pools, influencing who trades with who, and ultimately driving costs up further. The regulatory intent was to make trading of derivatives safer and more transparent, not necessarily more expensive.

Adams: Absolutely. If we look at the European Markets Infrastructure Regulation (EMIR), Dodd-Frank, the Basel Committee on Banking Supervision and International Organization of Securities Commissions, the growing demand for high grade collateral and the challenges around collateral mobility has resulted in balance sheet constraints. Equally, if we look at the Solvency II Directive, the need for insurance companies to hold assets for use as collateral may negatively impact investment performance. Finally, it is apparent that there is an impact around the risk profiling rules for intermediaries under the second Markets in Financial Instruments Directive II, and a direct consequence on trading in relation to the amount of liquid assets that must be put aside. All of these components have resulted in market players recognising the need for a wholesale change—not only around collateral itself but also around the fundamentals of trading strategies.

Albanese: Yes, and in some very interesting ways. One positive unintended consequence is the re-emergence of the triparty structure. Triparty offers the flexibility to address a variety of new uses and requirements. For example, with new rules governing non-cleared derivatives, triparty has proven useful for managing segregated initial margin requirements. The structure is well-suited to the controls required by both collateral providers and takers.

A second consequence is the necessity of managing collateral intraday. This requires greater intraday transparency into collateral, along with a nimble collateral substitutions capability that enables quick access to it. Intraday substitution, without the need for credit to start the process, has become a game changer. As trading counterparties face uncertain costs, the ability to substitute collateral with other eligible collateral, without the need for intraday credit, creates significant opportunities.

Pierre Lebel: The T+1 settlements of the variation margin (VM) in the uncleared margin rules comes to mind. The 'time tax' it creates can be described as follows: T+1 means Japan won't be trading with US anymore, as their T+1 is closed when the US opens 14 hours later. The only way around this is going through a custodian or a clearing broker, ensuring accounts are pre-funded, which has a cost. Once EMIR imposes the same T+1 to everyone early in 2017, this T+1 is likely to have a silo effect that will reduce liquidity, which runs counter to global regulatory objectives.

Allen: The leverage ratio has a significant impact on capital costs. This has put a break on the market for collateral upgrades or transformation trades due to the capital costs. Divergence in the measurements of the ratios under US and EU rules mean that much cash is now being provided by the European banks operating under a more favorable regime.

Seagroatt: Rules around segregation and rehypothecation have the potential to create unintended consequences further down the line.

This could lock up collateral at precisely the time it is needed most as collateral requirements increase globally. Differing regulatory regimes across jurisdictions and shifting timelines also create complexity and the potential for arbitrage.

The granularity of forthcoming Securities Financing Transaction Regulation requirements around collateral presents additional challenges for institutions. However, it is hard to tell whether regulators will be able to make any sense of the mass of data they are collecting. It is debatable whether this data will help regulators to identify build-ups of systemic risk and help to prevent future crises.

Finally, individual regulations have an effect, but it is the combined impact of all of the different rules across regulatory regimes that can really magnify the potential for unintended consequences. The result is that certain trading activities that underpin markets may become uneconomical, with a resulting reduction in global liquidity and other consequences that lead to different types of systemic risk.

Where would you like to see regulators tweak or re-write collateral rules?

Abraham: The elements of the new regulations that appear to cause the most issues are:

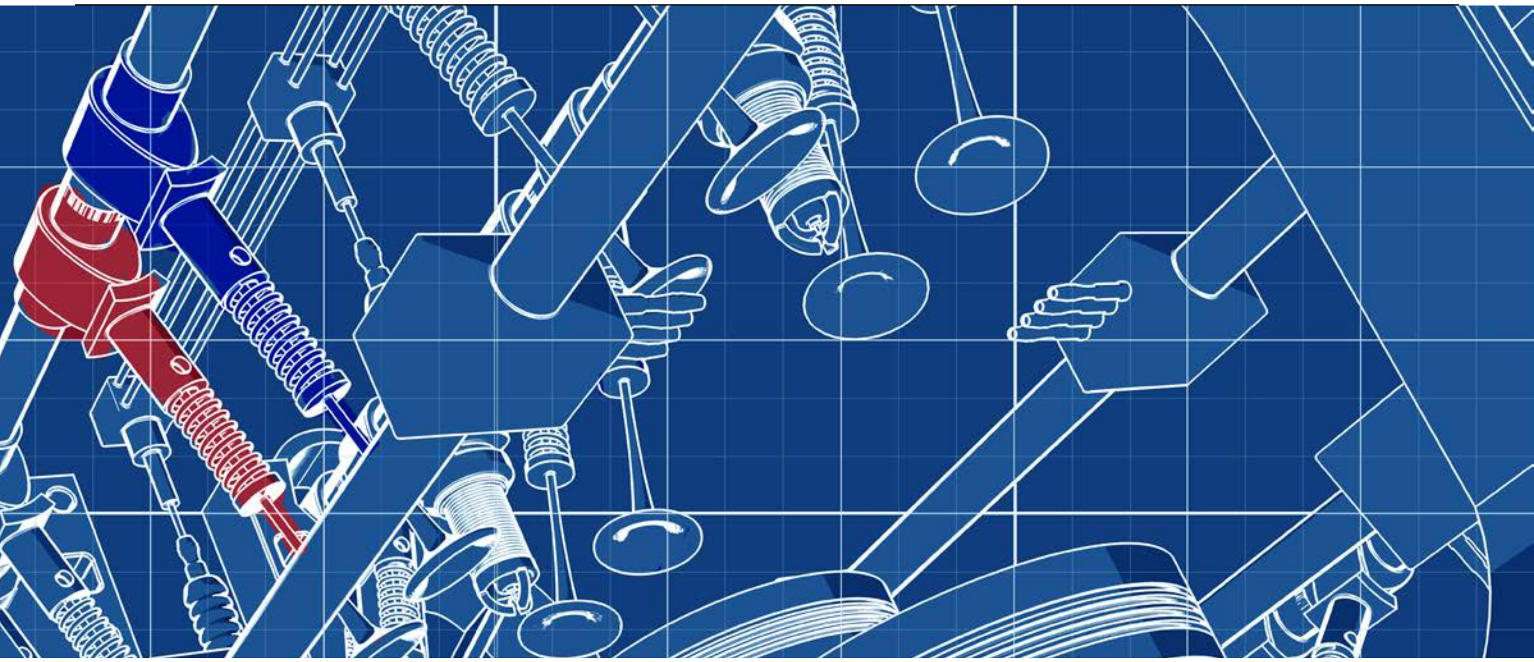
- Zero threshold;
- Monthly treasury average of less than €500,000 or $500,000;
- Daily margin calculations; and
- Same day settlement of margin calls. Article 13(1) VM rules in the current European regulatory technical standard stipulate that VM must be collected within the business day of the calculation, unless certain conditions are met—based upon whether the counterpart is moving regulatory initial margin.

I'm not sure it's the detail that is necessarily the issue, more the approach. I fail to see what benefits there are from tinkering with or rewriting the rules. But I have long been a proponent of a more harmonised approach across the different legislation, such as capital rules, clearing mandates and electronic trading. This for me is the fundamental difference between the US and EU approaches—a single piece of legislation introduced at the same time phased across the market covering all those areas rather than the broken disparate approach seen in the EU and elsewhere. That way, maybe some of the unintended consequences could have been, or can be, avoided or resolved in the future.

Adams: The principles upon which the regulations were built serve the right purpose, which is to put financial institutions in a position where they can survive large market shocks. Rather than asking the question of where we would like to see regulators re-write or tweak collateral rules, I think a more forward-looking view should be sought in how to improve the way regulations are introduced. Improvements in consultation mechanisms, both within the industry and with the regulators, are important to enable the meeting of theory and practice. Likewise, regulators working in specific jurisdictions ought to be mindful of other cross-border regulations that will affect their own capital market framework. Finally, timelines need to be realistic and adhered to in order for the industry to maintain focus.

Lebel: I would like to see the regulators tweak capital rules, particularly the leverage ratio, not so much the collateral rules. I find it a little strange to see on one hand the needs for collateral explode because of the regulation, and on the other hand the cost of the repo business explode because of the regulation as well. Intuitively, one would have thought it logical to see all businesses facilitating collateral moves and velocity being helped, instead of being taxed in some way. Similarly, why authorise variation margins to be deposited in securities, and at the same time differentiate the regulatory treatment of these margins versus the cash ones? We should at least allow financial counterparts to switch securities to cash without leverage cost?

Seagroatt: What we hear from customers is that different regulations haven't been aligned well across jurisdictions, which creates complexity. Also, some rehypothecation of collateral is not necessarily a bad thing and the market needs a certain degree of it, as it provides the lubricant that greases the global financial system. There is a necessary trade-off between risk and economic growth, and regulators could potentially go too far and reduce growth at a time when the global economy is still fragile.



Finally, how are industry collaborations in collateral and trading helping to optimise?

Abraham: A quick Google search of the trade headlines over the past months shows a huge amount of activity in this area. At CloudMargin we are continually looking at best-of-breed providers, solutions and technologies that we can leverage or partner with to compliment the service we already provide to our clients, and deliver even more benefits to their businesses.

Earlier in the year we announced our partnership with OpenGamma to embed their post-trade margin replication service within our platform to enhance the cleared derivative workflow by providing our clients early sight of their over-the-counter (OTC) cleared margin call from either their clearing broker or third-party administrator, helping them to provision the requisite funding as early as possible and minimising any associated funding costs.

Adams: The complexities of managing collateral are not specific to individual firms. Challenges cut across the entire industry. Firms are likely to share the same points of failure and, as such, industry collaborations are important. In order to succeed it makes sense to work together to create a cohesive process that takes into account the entire collateral ecosystem.

Industry participants are looking to market vendors to address core functions around pre-trade calculation, inventory management, dispute management, data management, reporting and optimisation.

Fundamentally, they are looking at centralising this across products, taking into account cleared OTC, uncleared OTC, repo, exchange-traded derivatives, exchange-traded derivatives and equity finance. Implementing such a solution may be crucial to keeping an organisation competitive, and this highly complex business requires sophisticated capabilities to be truly effective. Lombard Risk has built and is continuing to develop its collateral management solution based on these principles.

Albanese: There seems to be increased interest in new collateral trading venues—enabling institutions that are long in cash to transact directly with institutions in need of cash. It will be interesting to see how these venues develop, whether they impact demand and supply of collateral, and whether they make the role of a collateral agent even more central than it is today.

Allen: Internally, firms will find that trading desks should provide market prices required to build collateral optimisation and collateral transfer pricing. Credit value adjustment trading desks can provide theoretical collateral costs while other desks provide market prices. Looking at external collaborations, there is a paradoxical situation whereby firms are trying to take a holistic, centralised view of collateral, while isolated pools of collateral activity, such as triparty agents, remain. We see potential for improved transparency and portability in triparty collateral usage.

Lebel: The purpose of industry collaboration is to create utilities and standards allowing for an industrialised treatment of margins. Utilities such as Blazer and MTU foster a higher rate of straight-through processing. Standards like those in the Standard Initial Margin Model are, and will be, used in the computation of the initial margin in the non-cleared space. Making sure all the main factors use the very same mathematical model is a prerequisite; the first step to the industrial treatment of all collateral exchanges should be based on that model. Without such standards, the industry would face a huge increase in the number of disputes, something difficult to handle industrially.

Seagroatt: The collateral ecosystem is becoming more integrated, with triparty agents, custodians and CSDs working together to unlock collateral and mobilise it more easily with lower friction costs. As these entities become more interoperable, this will provide a more efficient global transmission mechanism. It also allows easier identification of idle pools of collateral, which is at the core of optimisation.

Systems providers such as 4sight (now Broadridge) continue to interface with these infrastructure providers to provide value for clients. We are also integrating with offerings by firms such as TriOptima and AcadiaSoft to provide greater automation and straight-through processing around collateral.

Finally, collaboration around blockchain and the use of smart contracts also presents interesting opportunities for efficiency in collateral management. As a result, Broadridge has a strategic investment in blockchain technology in order to ensure we are at the cutting edge of innovation in this area. **SLT**