Rule Financial

COLLATERAL MANAGEMENT

Beyond the crunch

A Rule Financial White Paper

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Making more of collateral management

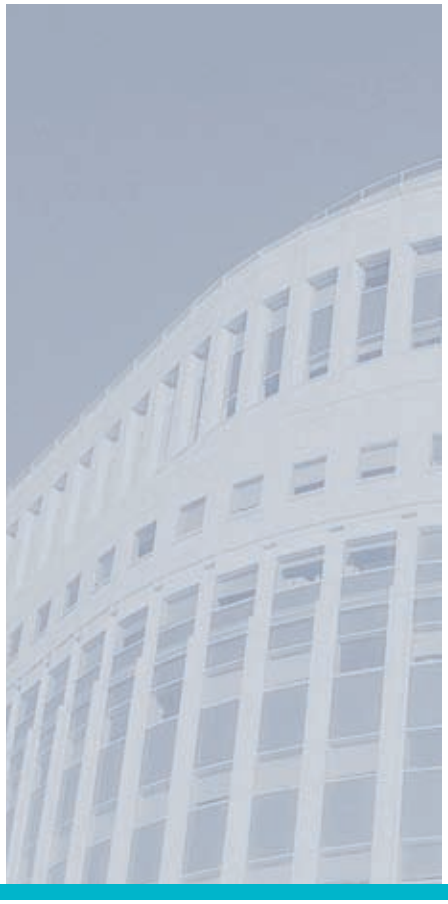
This document has been created in response to collateral management's increasing importance and visibility within the financial services sector. Recent events have highlighted the collateral management process as a crucial element in both risk management and corporate governance.

The 'credit crunch' has tended to focus attention on the specific frameworks financial institutions adopt as they try to offset potential credit risk through the regular exchange of collateral. Meanwhile they must also conform to the general increase in regulatory controls, with its accompanying demands for compliance and transparency. The trading environment is in a constant state of flux, with greater volumes and greater demands on systems leading to a marked spiralling up of complexity.

But take a step back. Where are you in all this? Your department? Your firm? And where would you like to be? Come to that, how broad an understanding do you have of the potential your collateral dealings represent?

For instance, is collateral management a continuing drain on your resources, or are you one of the elite institutions who have managed to refine the process into one with the potential for generating profits?

How you answer these questions begs others, because in every organisation a different landscape has evolved, involving diverse departments and personalities. Who, for instance, is setting the direction in your company? And who will sponsor the investment required to upgrade your collateral management systems, should that prove necessary?



Making more of collateral management
Continued

The present low penetration of full STP is a reflection of the intricacy involved. Collateral management is undertaken by systems which have to perform a complicated portfolio of tasks to extraordinarily fine tolerances, and yet offer solutions which enable bankers and brokers to centralise and streamline their involvement with minimal manual intervention.

Whether the impetus in a firm is coming from the front office, from a credit risk management department, or from a collateral management desk supporting several profit-generating silos within the bank, the protagonists will have grown familiar with handling daily (or more frequent) margin calls to the tightest of schedules. These must be evaluated according to individual and frequently monitored credit ratings, with everything backed up by strong reconciliation capabilities should any dispute arise. In short, although it may feel as though their systems work, the process is so top-heavy with detail and small print that the overall picture is obscured.

Silos & haircuts: the inside story

"It has never been so clear just how closely liquidity, confidence and collateral are truly linked in today's financial markets... Before 2008, prices were swamped in liquidity, but the crisis appears to have sobered people up and helped move the market into a fair and careful acknowledgement of the quality of collateral."

Marek Sanders
International Securities Finance magazine

While attention in London over the past few months has understandably been focused on the problems at Northern Rock and other knock-on effects following the collapse of the United States sub-prime market, the value of effective, optimised collateral management is not in question. Indeed, it has been proving its worth, and gaining a new maturity along the way.

The task of managing collateral is markedly different, both quantitatively and qualitatively, from ten years ago, when many institutions got by on simple spreadsheet solutions. Deposits of cash, bonds or other securities were requested on the basis of the counterparty's credit rating and usually no more than one or two business lines used collateral.

Today a wide variety of transactions and deals offers the opportunity for margining, bringing with it what is now effectively a statutory call for upfront security. Derivatives trading, repos, the daily communing between hedge funds and prime brokers, and straightforward securities lending all cross the collateral manager's desk.

In a major investment bank or other securities trading environment, the value of the collateral involved now runs into billions of pounds spread across many thousands of individual trades. It is only relatively recently, as volumes have grown and new financial instruments have evolved, that this situation has begun to look like a serious opportunity to make money, rather than a bowl of administrative spaghetti to be dutifully unravelled and archived.

The typical investment bank has collateral agreements with literally thousands of counterparties. Initial collateral is based on an agreed valuation plus a margin, known as the "haircut", and calls for fresh margin are made daily, if not more frequently, based on mark-to-market potential future exposure numbers and/or value-at-risk (VAR) calculations.

The size of the haircut can sometimes be included in a legal agreement, but, more usually, it is negotiated between counterparties. This depends on factors such as the type of deal, the relative quality of the counterparties, the relative quality of what has been borrowed versus what has been given as collateral, internal risk rules, which party "needs" the deal most, and so on. At a given moment any deal can thus be over, under or exactly collateralised.

Silos & haircuts: the inside story *Continued*

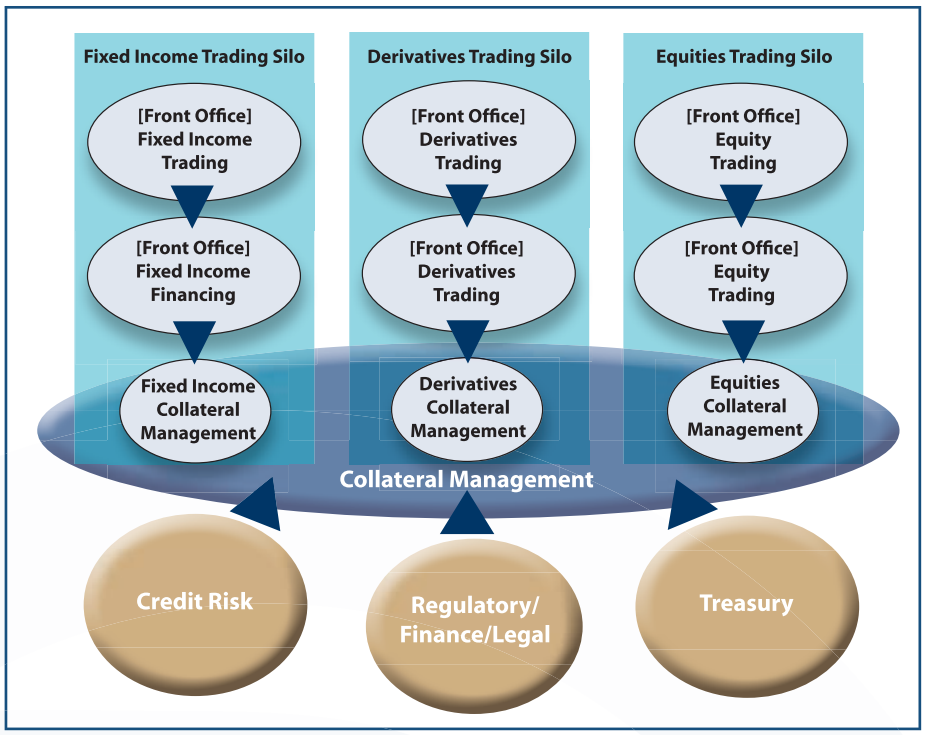


Fig.1 *Collateral management's dilemma: enterprise-wide opportunities versus business silo specialisation*

Banks look at their net exposure to each counterparty across a range of businesses. The workload is significant, and though the gains are clear, in terms of reduced credit risk, increased market access and reduced capital requirements, so are the costs and operational risks. In recognition, practitioners across the board have sought to automate as much of their workflow as possible, and not infrequently they've turned to vendor-packaged solutions offering maximum STP.

Within the commercial heart of banks, collateral management functions are steadily reaching commodity status, with traditional silos of trading all coming to rely on an efficient and seamless operation. (Fig 1)

So as the Fixed Income department will have a financing (Repo) desk responsible for managing the Fixed Income assets, the equity business will have a stock borrow/loan desk for financing the equity assets.

The collateral management department liaises directly with colleagues in Credit Risk, Legal and Treasury to make sure that the bank's credit exposure is managed and minimised. It must see that collateral movements are agreed with clients, that regulatory reporting and compliance commitments are met and that internal reporting is produced and circulated. As it interacts with each strategic viewpoint it becomes at once more complex and more influential.

However, because the front office trading departments have evolved at different speeds, integration has become an issue as volumes have increased. Something of a 'slave' to the data it receives from the rest of the bank, the collateral management function is equally at the relative whim of the several front office silos for which it must provide secure guarantees.

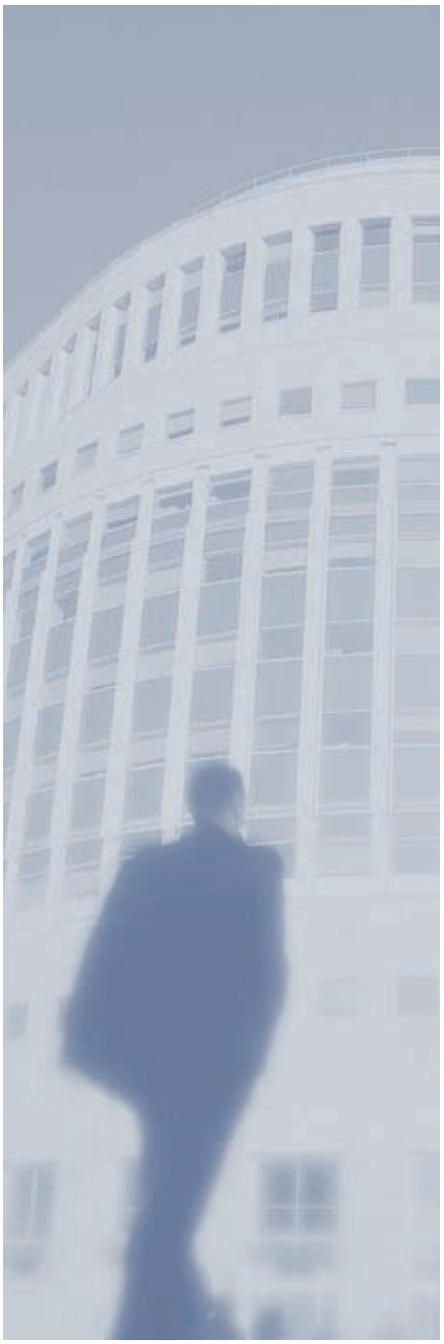
What is revealed by in-depth analysis of the collateral management function in the context of the overall management of risk, is that even seemingly well-organised and well-managed operations offer valuable scope for enhancement.

An example of this can be seen in the considerable boost to collateral management's importance afforded by the Basel Committee on Banking Supervision's 'Basel II' framework for international capital controls. Basel II acknowledges that technology is driving banking every bit as much as banking is driving technology, with some dramatic effects.

By constantly monitoring every aspect of every trade involving risk weighted assets (RWA) – which in a single bank could amount to as many as 3 million events per day when including amendments, confirmations, payments, cancellations and maturities - a significant reduction in the quantity of regulatory capital held compulsorily on reserve can be achieved. This is reliant on the authorities agreeing that the bank's advanced models for the calculation of future exposures are correct, and that they have control of all data entered in the risk engines, ensuring it comprises a complete data set with full and correct classifications.

The technology now exists to satisfy such a sophisticated requirement. By running the RWA calculation continuously the Bank can manage the RWA cash buffer more efficiently and achieve significant savings in funding costs. Trade data can be collected directly from the Front Office systems, validated, enriched and transformed, before being sent down to the risk engines, all in full STP mode.

In a documented example one investment bank found itself able to revise its overall regulatory capital liability from £5bn down to £3bn, an extraordinary example of the benefits of good housekeeping.



A new perspective:
exploring a maturity model for collateral management

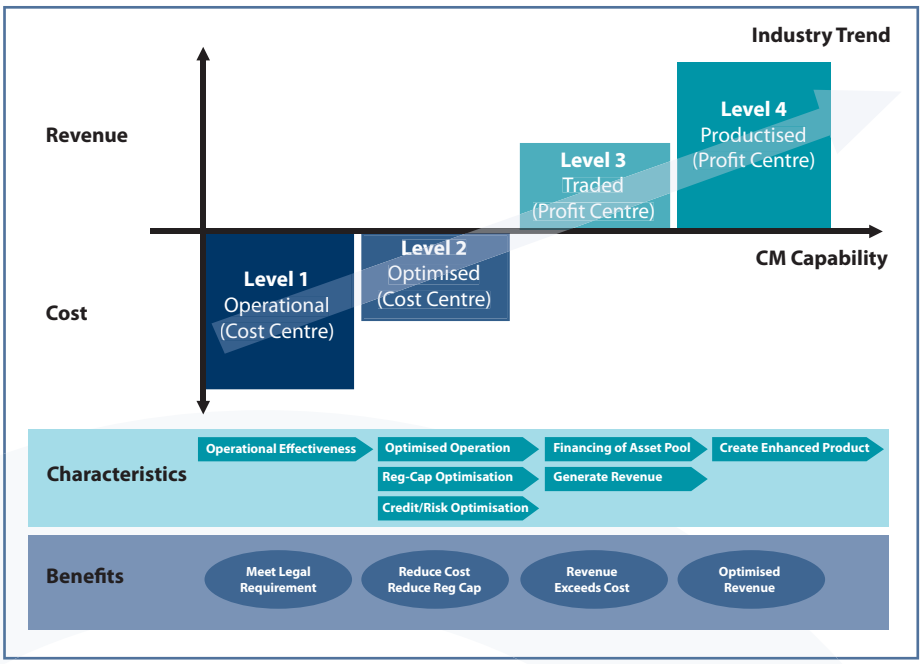


Fig.2 *Four levels of collateral management maturity*

Once a bank has achieved a basic level of operational effectiveness in its collateral management, sufficient at least to comply with legal obligations, it will still only be partially efficient. Although providing a common-sense level of risk exposure, the operation will almost certainly be costing more money than it should, since without full company-wide integration serious cost-savings and knowledge-sharing are impractical if not impossible to achieve.

With the entire financial services sector busy optimising its operations wherever feasible, the task of tuning and enhancing a bank's existing collateral management systems offers considerable opportunities which the market will be keen to explore.

Figure 2 shows how collateral management's characteristics fall into four levels as it evolves, with, on the left hand side, the function in its infancy as a cost centre, moving through the maturing process with the addition and enhancement of certain elements to the status of a 'Level 4' profit centre.

Each level – and in reality there are no hard walls to these levels, save the very real threshold of crossing from an overhead to a profit centre between levels 2 and 3 – carries its own imperatives with regard to investment and resourcing, but the essential logic of the progression has been borne out by practical experience in the field.

Figure 3 defines the individual requirements of the environment in terms of the IT facilities necessary, the professional services used and the compliance initiatives addressed.

At Level 1, for instance, the basic mechanics of collateral management are undertaken - 'Calculate Collateral Values'. 'Agree Calls', 'Accrue and Pay Interest' etc. Relatively simple to understand, but undoubtedly demanding to bring about (even in this simplified diagram Level 1 has no fewer than 15 key processes, with each of these spawning a cascade of resultant actions and/or liabilities).

Of course, running a collateral management operation at any level is an extraordinarily complex affair. To reach the point where elements of Level 2 become feasible to investigate, formulate and subsequently incorporate into the system will more likely than not involve major organisational change across the entire bank, extending into areas considerably removed from the collateral management function.

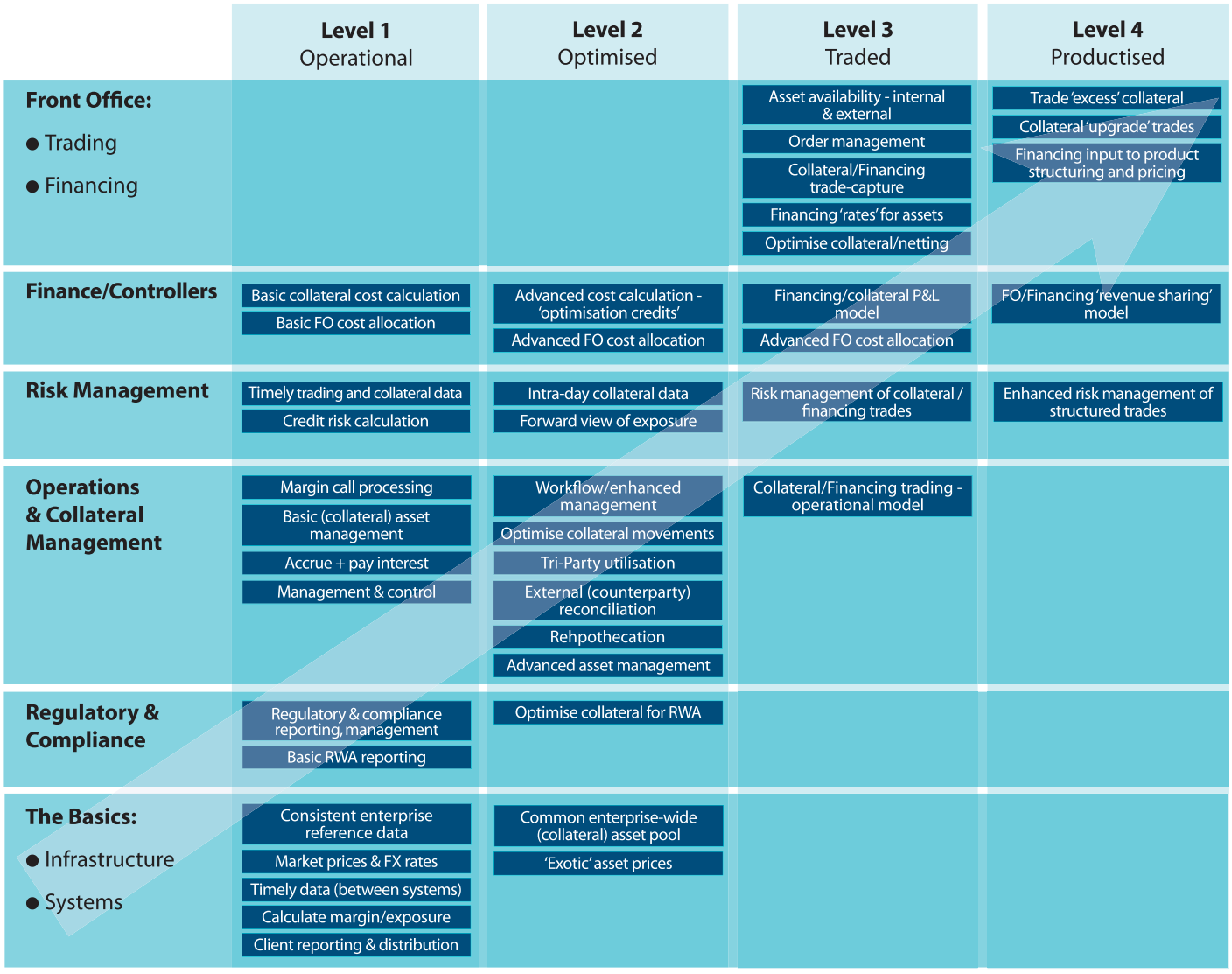


Fig. 3 *Requirements at different levels of collateral management maturity*

A new perspective:
exploring a maturity model for collateral management *Continued*

And be aware that there is no standardisation here, save in the business of record-keeping and reporting. The decision to recall a piece of AAA collateral and offer instead something classified as BBB might be a useful short-term tactic in a longer strategic battle, but who will take the decision? Who is actually doing the collateral substitution? There's nothing very difficult about it, and it could be done perfectly well by a back office person, in which case it is the level 2 activity of optimising collateral movements. Or, it could equally be done by a front office trader, one with a P&L mandate to trade collateral: this would be one of the simpler moves he can make.

He might just as easily change up a gear and make some more sophisticated plays, such as identifyng clients who will take various grades of collateral, and setting up triparty deals to use odd bin ends in which few others see value. His contribution might be measured in part on how much collateral he can rehypothecate, which is perfectly measurable. To maximise this he will move collateral around frequently, collecting fees where possible and freeing up as much quality collateral as he can, while putting it out under his trading book.

If carrying out a single function is not difficult, handling the broader picture gets acutely harder. As one front office trader interviewed for this paper admitted:

"Each time you make a decision you have to ask whether you're making the best use of available capital. Should I post this piece of collateral with a central bank, a clearing house, to cover internal shorts, or should I lend it out, repo it out, or use it in my matched book trading operation?"

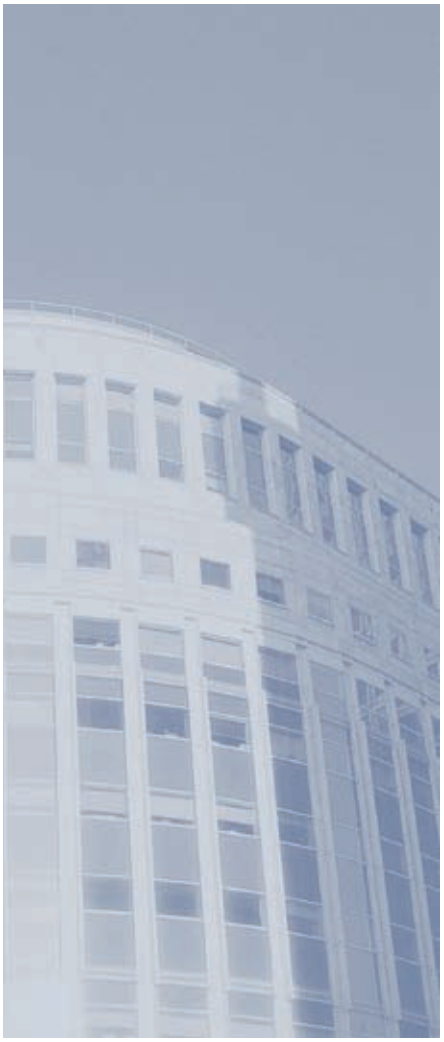
These are clearly questions on which the front office has the clearest perspective, but there are potential negatives too, in that the front office's hunt for profit could be blocking collateral optimisation:

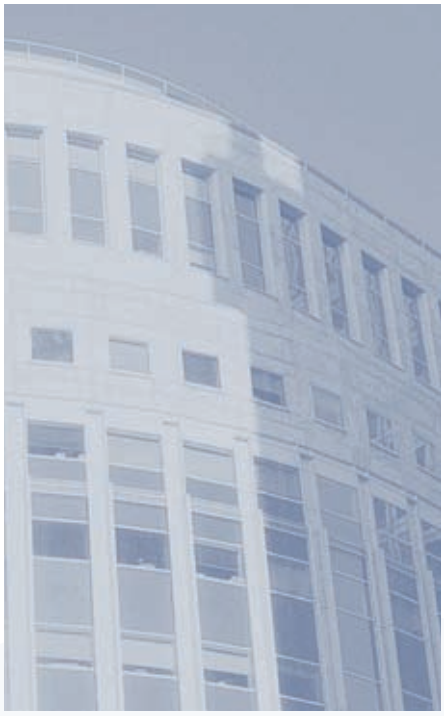
"In many firms you have a New York, a London and a Tokyo desk, all operating their own little piles of collateral, without getting any of the benefits from crossing over. That's probably because the Asian, North American and European heads are on different P&Ls".

If you have a good collateral management system able to give timely views across all asset classes, which accurately shows book and depot positions, then you have a system able to support both the back office activities at levels 1 and 2 and the front office activities at level 3 and 4.

With your operation in the box marked 'Optimised' a true overview of the scene can be gathered thanks to a number of enhancements: improved data collection, more precise automation, the tuning of various event warning mechanisms, and a wider, possibly global intelligence-gathering facility. However, to have attained this level is to be only recently off the starting blocks of a process which may take a significant change programme to complete.

The end benefits, however, look to turning the collateral management function of a bank into a proactive, product-generating arena which any financial institution would be glad to have at the heart of its trading business.





The way ahead

So how can banks and financial institutions make sure their collateral handling technology is operating at the height of efficiency?

And how can such hugely complicated organisations as banks, despite being committed to economies of scale and good organisation, turn inwards to examine their proficiency in collateral management from an entirely objective point of view? Responsibility for it may or may not be shared across departmental borders, in new territory beyond the shadow of the silos, but people whose paths might not otherwise have crossed will need to come together from disparate parts of the organisation. It is worth reminding ourselves that in any group of people where the lines of demarcation are indistinct or ambiguous, politics thrive, so a foolproof starting point has great advantages and is important to locate.

Depending on the individual situation, there are two potential starting points via which to determine a bank's current state of 'collateral fluency'.

1 A double audit on the current collateral management operation on the business and technological fronts. Through a business review, which can establish functionally where on the maturity model it sits at present, and through a technology review assessing the quality of service the company is receiving from the IT and related systems upon which its operations rely. The systems involved can be judged fairly and squarely against a number of factors, and it is possible to cite specific key boxes which need to be ticked:

- RESPONSIVENESS
- AVAILABILITY
- SCALABILITY
- USABILITY
- SECURITY
- RESILIENCE
- SUPPORTABILITY

2 By deciding upon the destination – where the bank wishes to get to on the model, and then establishing the future-state functional capability required, and determining what quality and level of service any technology should be providing.

Logically a third way then presents itself: the gaps and shortfalls which would appear in any comparison between 1 and 2 are themselves the clues as to the best way forward.

Next, having carried out this basic 'hygiene check' to confirm the health of the system, we should concentrate on cross product opportunities to make the most of any overlap, and to avoid 'reinventing the wheel'. The equities trader, the derivatives trader and the fixed income department actually have a lot more in common than is commonly acknowledged.

Known problem areas should be addressed – in particular the question of late data feeds. Collateral management is dependent on timely data being fed to the right place to be of use. It may be drawn from a host of external and internal sources, any of which might break down or face interruption, but in every case there would be room for contingency to have been considered, and for a plan to be in place. Such a contingency might include rolling the previous day's data forward a day. In the event of an outage, this could at the very least provide a rough estimate, and it can be updated quickly once the problem has been resolved.

And always take the widest view possible, preferably the global one. To manage collateral efficiently bankers need visibility across every asset class and every financial entity. The wider the view, the more confident the decisions, and the greater the advantage over more local operations with limited reach into the markets. Other items on the 'shopping list' of any organisation interested in enhancing its collateral management operation would include those listed on the right:

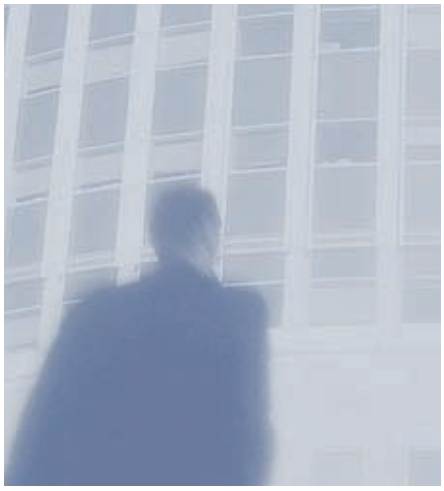
Optimisation With enough information and time to optimise every position, collateral management becomes if not simple, then a lot more straightforward.

Managing margin workflows The daily or twice-daily margin calls are when reality bites in collateral management and payments or disputed payments come into focus. Better information management, the broadest view and the most accurate data offer banks the ability to become more proactive in maximising their income.

Architectural review Is your systems architecture able to meet current and future requirements? Are your tactical fixes moving towards a strategic target, or are you simply treading water? - or, worse still, getting swept backwards?

Risk Are your risk calculations working from the same data and legal position as your collateral management team? Risk places different demands on the system at various time of the day. Are your systems supporting this adequately?

Following the sun 24-hour trading is now the norm, so your collateral management systems must be able to cope with continuous processing across different time zones, languages and currencies.



Conclusion

The recent increase in the visibility of collateral management's influence would appear to have provided financial institutions with an opportunity worth exploiting at whatever level is deemed suitable for their individual circumstances and attitude to risk.

The first step is to establish who 'owns' the collateral management function within your organisation. Then, by careful analysis and precise definition a conscious decision can be taken on the level in the maturity process the bank, fund or trading house would be wisest to target. The correct change actions can then be initiated and undertaken, and systems implemented to bring that about.

For some, the logic of being at 'level 2', fully optimised yet content to treat the correct management of collateral as a worthwhile item of expenditure in the general management of risk, makes perfect sense.

For others, the opportunity of achieving the benefits of 'level 4' activity will inspire some fundamental upheaval in their organisational structures which will lead ultimately to profit increases and greater turnover.

In the current atmosphere of bearish restraint among City institutions and the global markets in general, better management of the collateral function offers an easily tapped source of growth - from within.

Rule Financial

Since 1997 Rule Financial's consultants have been working alongside their counterparts at the world's top banks and financial institutions, helping to lower costs, improve productivity and extract the maximum value from existing IT investments.

Our expertise in the management of change, project delivery and complex technology has helped us build long-term relationships on a solid track record of success. Our prowess in system design, testing and rapid application development has earned us a powerful reputation.

This means that at Rule Financial we have a thorough understanding of what the front, middle and back offices each require from their systems and processes, thanks to our practical experience and capability across the broadest spectrum of domains.

Total Tri-Party

Total Tri-Party is Rule Financial's revolutionary new product designed to give collateral management professionals the complete global picture of their exposure in a multi-agent situation.

The only software of its kind, **Total Tri-Party** analyses, collates and displays your collateral positions, giving visibility across liabilities and enhancing your ability to manage risk.

*To arrange a demonstration please contact **David Little** or **Alec Nelson.***

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