Risk management of collateralised portfolios

InteDelta Insight provides expert commentary on some of the key risk and collateral management issues faced by our clients. This is the second of two InSights focusing on the role of front office collateral management desks. In this edition, we look at the some of the credit risk management issues arising from the set-up of front office collateral management desks. This follows the previous edition, which covered the funding and liquidity management role of collateral management desks.

Key point summary

- Many banks are looking to expand the range of eligible collateral within their bilateral collateral arrangements in order to match their available inventory and minimise collateral funding costs
- Expansion of collateral eligibility schedules requires that a more robust process is put in place for managing the risks in collateral received
- An increasing trend is for front office desks to take greater ownership of managing collateral risks. This ownership is typically shared between the collateral desk and the CVA desk
- Improved valuation processes are required for complex or structured transactions
- Enhanced modelling capabilities are required for Initial Margin, stress testing. scenario analysis and wrong way risk

Overview

Significant recent industry attention has focused on the importance of effectively optimizing the cost of funding collateral. In the majority of organizations, this is the first priority for front office collateral management functions. This is driving many organizations to look to expand the range of eligible collateral which can be placed under their bilateral collateral arrangements in order to match the range of assets which they hold within their inventory. However, typically, such changes to the terms of a collateral agreement apply to both parties, therefore also expanding the range of assets which the counterparty can provide.

This requires that banks are better able to manage the risks within the portfolio of collateral received in order to ensure that - in the event of counterparty default - sufficient value of collateral has been delivered to fully offset any positive mark to markets which have been lost due to the counterparty being unable to meet its obligations.

At a high level, the questions which therefore need to be addressed are:

- What is the current mark to market on all outstanding contracts?
- How might the mark to markets across a counterparty portfolio evolve in the future, in both normal and stressed scenarios?
- What is the current value of collateral received?
- How might the total value of collateral received from a counterparty evolve in the future, in both normal and stressed scenarios?
- Is there any correlation between the likelihood of the counterparty's default and movements in the value of the collateral?

Whilst primary ownership of addressing such questions has traditionally been undertaken by internal risk management departments, the front office is increasingly taking a larger role in actively managing these risks. In doing so, the aim is not to replace the role of the risk management department but rather to complement its activities with a pro-active ownership of risk within the business functions. The ownership of these front office risk management activities is commonly shared between the front office collateral management desk and the bank's Credit Valuation Adjustment (CVA) desk. In the event of counterparty default, the front office will also have responsibility for managing down any collateral held, aiming to minimise any price deterioration of the collateral during this period.

ISDA Standard CSA

It is worth noting that ISDA's standard CSA does take the market in a very different direction in that it narrows collateral eligibility criteria. This reduces the optionality within the derivatives collateral process, reducing the opportunities for collateral optimization and also making the risk management of collateral received more straightforward.

From recent surveying of our clients, there appears to be a mixed appetite for the standard CSA – some strongly supportive, some luke warm, some against. As such, we expect elements of the market to move towards simpler eligibility criteria under the standard CSA and other sections of the market to continue looking to expand eligibility criteria in order to optimize collateral funding costs.

Key Business Focus Areas

Trade valuation

Accurate valuations for all collateralised trades is a critical starting point for both the operational and the risk management aspects of collateral management. Many firms still have issues in this area, particularly in relation to the valuation of structured or complex transactions. Where banks have undertaken such trades on a back to back basis from a market risk perspective, it was not always considered a high priority to calculate accurate trade level valuations. The increased importance of counterparty risk and collateral management has now forced banks to remedy this gap. Recent regulations such as Dodd Frank and the European Market Infrastructure Regulation also require financial markets participants to be able to provide a valuation for all derivative transactions.

Underlying exposure

In order to ensure that a party to a derivative transaction will have sufficient collateral to cover exposure through the period it takes to close out a transaction (or portfolio of transactions) in the event of counterparty default, it needs to take into account the likelihood that the exposure might evolve further in its favour (creating larger credit risk) during the close out period. The primary tool to protect against this risk is Initial Margin. Regulatory proposals - currently under consultation - propose a much more wide ranging use of Initial Margin for non-cleared derivatives. Banks currently calculate Initial Margin in a variety of different ways, from simple trade level risk weightings through to portfolio level Value at Risk calculations. Most market participants are not currently in a position to systematically calculate and process Initial Margin across large numbers of counterparties. For a more detailed overview of Initial Margin developments see our earlier InteDelta InSight edition (http://www.intedelta.com/news/intedelta-insight-initial-margin).

Alongside Initial Margin calculations, collateral management desks are also assessing a range of other measures of exposure in order to understand whether collateral taken is sufficient – typical measures being Potential Future Exposure (PFE), Expected Exposure (EE) and stressed exposures. Depending upon the results of such calculations (particularly stress results) Initial Margin numbers may be revised.

'What-if' and scenario analysis are also coming into increasing use within front office risk processes in order to pro-actively assess future exposure.

Collateral valuation and exposure

As the range of eligible collateral expands, the more complex the collateral pricing process becomes. Banks are now investing significant effort and investment to put in place robust, streamlined and timely collateral pricing processes. This involves:

- Determining a price/repo rate for every asset held
- Determining risk-based haircuts for all eligible assets
- Assessing the liquidity of all assets held

Over and above purely pricing the collateral as of today, it is also necessary to assess how the value of the collateral held might move in the future. Haircuts are the primary tool to protect against future price deterioration of the collateral through the close out period. However, other risk measures are also widely employed, including:

- Collateral sensitivity analysis
- Wrong way risk identification
- Stress testing and scenario analysis

What Do You Need to Do?

To establish a robust risk management process for collateralised portfolios, and also meet evolving regulatory needs, requires significant investment in organisation, processes and systems. Some specific areas of high impact are:

Organisation and governance

- Define governance structure for ownership of collateral risks (e.g. between credit risk management, collateral desk, CVA desk etc) and touch points between these different areas
- Put in place an effective policy framework for managing collateralised risk (e.g. definition of concentration rules, Initial Margin approach etc)
- Set up of governance committees to ensure cross-functional oversight of the risks in the end to end collateral process
- Review appropriateness of collateral agreement terms

Processes and systems

- Implement an automated process for calculating and managing Initial Margin
- Implement new models and systems for valuing complex or structured transactions
- Implement new models and systems for stress testing and what if/scenario analysis
- Implement processes and systems for systematic wrong way risk identification

How InteDelta can help

The challenges faced by institutions in implementing best practice approaches for managing the risks in collateralised portfolios are often significant. InteDelta can support institutions to successfully implement these changes in the most effective way.

Our services include:

- Model build or system selection for structured/complex trade valuation solutions
- Model build or system selection for Initial Margin calculation solutions
- Analysis, specification and implementation of processes for wrong way risk
- Specification and implementation of stress testing and scenario analysis processes
- Documentation of collateralisation risk policies
- Definition and implementation of best practice governance structures for managing risk across the collateral process

Contact us

The editions of InteDelta InSight are designed to provide a concise, informative snapshot of important risk and collateral management topics and to be easily digestible by the reader. Underlying each edition is extensive information and expertise which we are happy to discuss further with interested parties.

If you would like additional information about InteDelta or would like to discuss any of the issues discussed in this paper, please contact:

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About InteDelta

InteDelta helps financial institutions implement risk management best practice. Combining a structured consulting approach with subject matter expertise, we work with our global client base to align with industry standards. Our areas of expertise cover the major risks faced by financial institutions: credit, market, liquidity and operational risk, alongside niche specialisms such as collateral management. Our clients have a global spread, ranging from some of the world's largest banks and asset managers to developing market banks, hedge funds and risk software vendors.