

Collateral Management

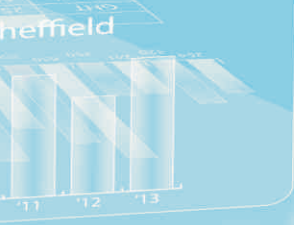
Road to Optimization



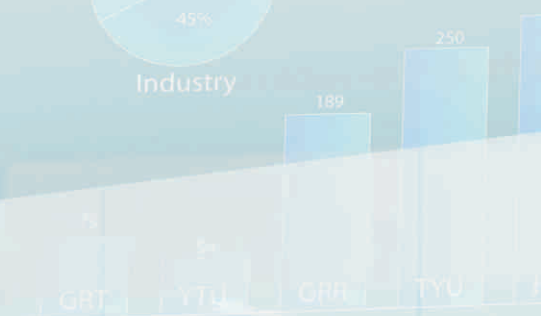
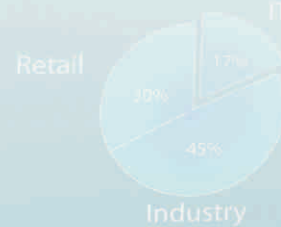
Retail sales levels



Rental for storage



Average values of the dynamic



Regional segments & sales



Introduction

Collateral Management is now more at the centre-stage than ever before. The 2008 financial crisis and the role derivatives played in it compelled the market regulators to reassess the risks posed by various derivative instruments and reengineer the way they ideally should originate, clear and settle tasks. This prompted a sea of global regulations like EMIR, DFA, Basel III and MiFID II amongst many others with a primary objective of increasing market stability and resiliency, enhancing transparency and reducing counterparty, operational and liquidity risk.

With the advent of these reforms including "liquidity coverage ratio", it became more imperative for firms to manage and hold on to higher quality collateral assets in their books with the sun setting on the unsecured lending business, getting replaced with secured lending.

With such a significant evolution of markets, the financial firms are facing up to the challenges like managing their existing collateral management landscape with impact on:

- Collateral optimization to mitigate and reduce financing costs
- Ascertaining collateral availability within the firm in inter-branch, inter-region and inter-desk landscape
- Prioritizing collateral placements and
- Much needed and enhanced Operating Model required to support the entire gamut of collateral management functions and diminish fragmentation.

Collateral Optimization is a buzz-phrase in all financial institutions that enables centralization of collateral functions across business units to arrive at a cost of placing each collateral. This helps financial institutions manage supply and demand of collaterals across the firm in an integrated way. It also offers significant cost savings and improves liquidity management by helping firms hold onto high quality assets rather than pledging them. Optimization also enables users to extract maximum economic value from collateral assets that were previously sitting idle on the balance sheet.

This white paper endeavours to bring out various aspects of collateral management in the context of ever changing regulations, key challenges faced by the industry in managing often scarce collaterals and also discusses the available solutions to address those challenges.

Definition of Collateral & Collateral Management

A plain English definition of 'Collateral' is the assets (generally very Liquid) provided by one party-to-trade to another to mitigate the counterparty risk for any extension of credit or financial exposure to compensate for payment default. In financial institutions, especially in the global banks, this could be different in case of Banking Books as against Trading Books. For Banking Books type of collateral could be cash, gold, government securities etc. whereas, for Trading Books it is generally cash and government bonds. The problem has grown in the last few years owing to the increased risk involved in the exposures of Trading Books, increase in secured lending in the banking books and thus, creating a huge demand of liquid assets.

'Collateral Management' is an aftermath of a conjuncture of process of multiple functions such as Collateral Inventory Management, Collateral Prioritization, Collateral Optimization, collateral Transformation and Distribution functioning under KPIs like optimal allocation, availability, timely delivery and financing cost.

Delving further, effective Collateral Management starts with design, negotiation and setting up a new collateral legal agreement (ISDA's CSA) and continues with operations to collect and return cash and collateral, recall and substitute collateral, transformation of collateral, valuation of collateral, managing corporate actions on collateral and lastly by meeting the demands to finance new products.



Increasing need of collaterals

The Dodd Frank Act, EMIR and Basel III Capital requirements are three different pieces of regulations which drive the need for humungous amount of quality collaterals.

"A September 2012 study by the Bank of England estimated that new collateral demands could reach as high as \$800 billion as a result of new regulatory requirements. In a different analysis, the International Swaps and Derivatives Association (ISDA®) calculated that new initial margin requirements for OTC derivatives could top \$10 trillion. More recently, a committee of the Bank for International Settlement (BIS) estimated that the combination of new liquidity requirements and derivatives regulation could push collateral needs to \$4 trillion" – Source: a report on Collateral Management by DTCC

TABB group study estimates that "Dodd-Frank and EMIR reforms are expected to create a shortfall in eligible high-grade collateral of over \$2T"

The following are the major factors which drives 'Collateral demand':

- Mandatory CCP Clearing - The mandate for centralized clearing of all standardized OTC derivatives contracts which affects all the counterparties dealing in OTC Derivatives trades
- Clearing Fragmentation - Lack of a single CCP which can clear all the OTC derivative contracts impedes the possibility of netting the collateral needs arising out of clearing different asset classes from different clearing houses. This may even drive individual daily or even intraday margin calls for each clearinghouse
- Bilateral Collateralization under EMIR – EMIR necessitates Financial Counterparties (FCs) and Non-Financial Counterparties (NFCs) to have risk management procedures in place that requires the timely, accurate and appropriately segregated exchange of collateral with respect to OTC derivative contracts
- Basel III capital requirements - Recent Basel III proposals brought changes to credit and counterparty risk calculations along with new Liquidity Coverage Ratio (LCR) requirements. They also call for additional collateral and margin requirements for banks having exposures to large, complex and illiquid derivatives.
- UCITS IV directive – The UCITS IV directive which was implemented in late 2010 has made it easier for fund management firms to operate across borders. Fund managers will now require increased usage of collaterals to contain the credit risk arising out of the cross border derivatives dealings
- EMIR requirements on segregation of client collaterals
- Contribution to CCP default funds
- Increase in the secured lending business as against unsecured lending
- Restrictions on re-hypothecation of received collaterals – Re-hypothecation refers to collateral received from one counter-party being reused to meet the collateral obligation to another.
- FSB recommends that only entities subject to adequate regulation of liquidity risks should be allowed to engage in the re-hypothecation of client assets
- ESMA has proposed outright ban on re-hypothecation and other re-use of collaterals as initial margin.

Collateral management challenges

Collaterals now becoming an integral component of trading, liquidity management, credit risk, and market risk and finance activities.

Key challenges which most banks face:

- Back-office operations function - Collateral is predominantly managed within the back office, and is totally out of sync with the treasury/finance desk. This is although changing and slowing being viewed as an essential Front/Mid office functions in most of the banks. The global derivative pricing models in the past few years which includes CVA, DVA, FVA is also actually bringing treasury and collateral management into contact with trading desk and risk managers
- Working in silo – Many banks still run a silo-based collateral management environment between departments and products handling individual margin calls. This does not present an enterprise level view of the available collaterals and agreements to manage them optimally.
- Tracking which securities have been assigned to be swapped for collateral-grade securities, which collateral has been posted as margin and understanding the firm's intra-liquidity position has become more difficult, mainly due to the lack of integration of transactional data
- Increase in margin calls – Recent proliferation of regulatory requirements, multitude of CCPs and ISDA's new CSA which recommends matching the currency of the collateral with the currency of the underlying trade is expected to increase the daily margin calls by minimum 10 times
- Client collateral segregation –Recent regulations mandating the clearing members to segregate the client collaterals, is expected to drive a surge in the number of accounts while adding greater complexity to segregation models. The existing systems may not be able to cope-up with this requirement
- Inability to produce intraday collateral valuations for regulators / front-offices
- Limited
 - Cross product netting abilities
 - Cross asset collateral views
 - Capabilities for adopting emerging central counterparty clearing infrastructure and computing complex margin calculations
- Paucity of quality collaterals – Inefficient allocation of available collaterals coupled with high demand drives the scarcity of quality collaterals
- Manual intervention - Handling of margin calls (sending and receiving) & maintaining instrument prices manually create inefficiencies
- Fragmented systems breeding inefficiencies – Receiving consolidated data from multiple partner systems in batches (and not intra-day) induces inefficiencies
- Key decisions based on stale data – Most of the collateral management areas operate with a time-lag, and do not support intraday risk management
- Existing System's deficiency in grading the collaterals based on its cost & continuously monitoring and assessing the impact of credit rating downgrades of any financial institution



Suggested Solutions

While there is no single straight-fit solution to overcome challenges, many IT service companies have come up with a varied set of solutions, some addressing specific challenges stated above while others trying to represent elements of larger strategic initiatives.

For any firm to successfully convert the above challenges to opportunities, the following are the areas in Collateral Management which need to be looked at.

- Enterprise view of collaterals– An efficient Collateral Management system should have a firm – wide view of collateral inventory and obligations across product lines and business lines. The firms should come out the silo-based approach which was being practiced all these days. Collateral management should no longer be treated as a back-office function as it requires a front-office mind set to react to changing market dynamics.
- Real-Time Collateral Valuation – Collateral valuations should be performed intra-day (near real time) which will help the front office to factor in pricing and trading decisions. Real-time valuations will also help the firms perform daily collateral valuations, portfolio reconciliations & dispute management (EMIR requirement for bilateral trades), margin calculations, forecasting, exposure calculations and intra-day liquidity management.
- Automated Margin Calculations – Margin call calculations should be automated as much as possible using the configurable margin rule engine to enable STP. The Margin calls should be transmitted and the counterparty could agree on or dispute the margin call using the electronic messaging
- Collateral Optimization -Collateral Optimization is just one piece of a large collateral management activity. It is a process which identifies and addresses the gap between collateral supply and demand by means of:

- Centralizing the 'collateral function' across business& product lines
- Providing a central view of agreements (CSAs)
- Identifying collaterals placed at various locations
- Aggregation of the available collaterals
- Assigning a cost to collateral assets
- Ascertaining the haircut weighted cost of the available collaterals
- Ranking the collaterals based on cost (basically to find out the cheapest to deliver)
- Automatic allocation of collateral

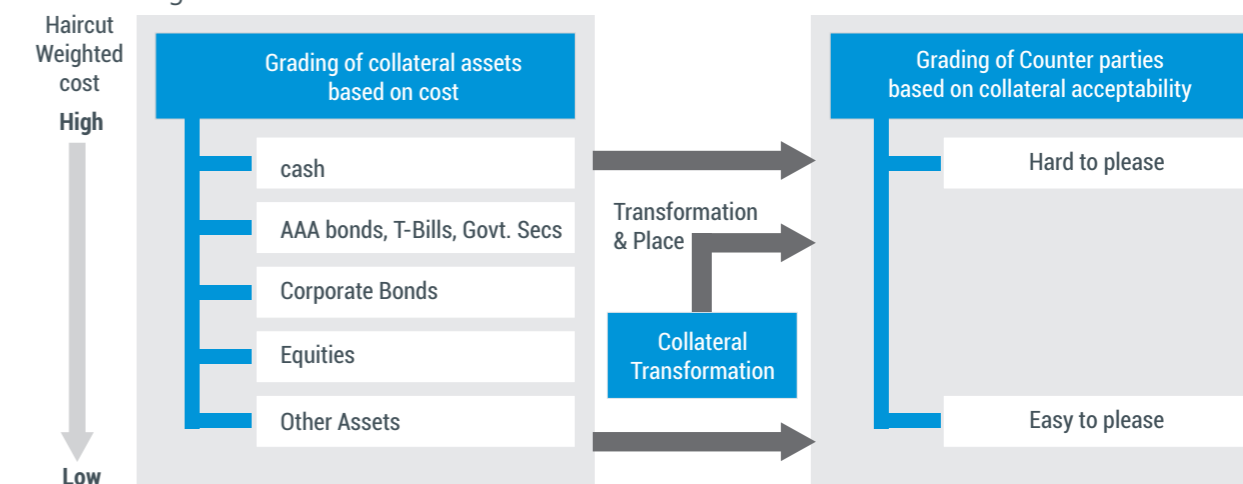
For each margin call across the business lines - Securities lending, Repos, and OTC/exchange traded derivatives. Some of the questions which banks need to retrospect are whether each and every collateral transaction nature is understood, if they still performing re-hypothecation within prescribed internal limits and whether they require legal documentation etc.

With the understanding of these gaps, firms shall be able to manage collateral supply and demand across the firm in an integrated way. It offers considerable cost savings and improves liquidity management by helping firms to hold onto high quality assets rather than pledging them out. Optimization also enables users to extract maximum economic value from collateral assets that were previously sitting idle on the balance sheet.

Optimization not only helps the firms identify the 'cheapest to deliver' collateral, but also helps take collateral allocation decisions across the portfolio, based on 'hardest (collateral) to place' and 'hardest (counterparty) to please'.

Furthermore, it must take into account the ability to dynamically transform, substitute and reallocate pledged collateral in real time throughout the trade lifecycle, in line with cheapest to deliver methodology

The diagrammatic representation of how collateral optimization function delivers the 'cheapest to deliver' collateral is given below:



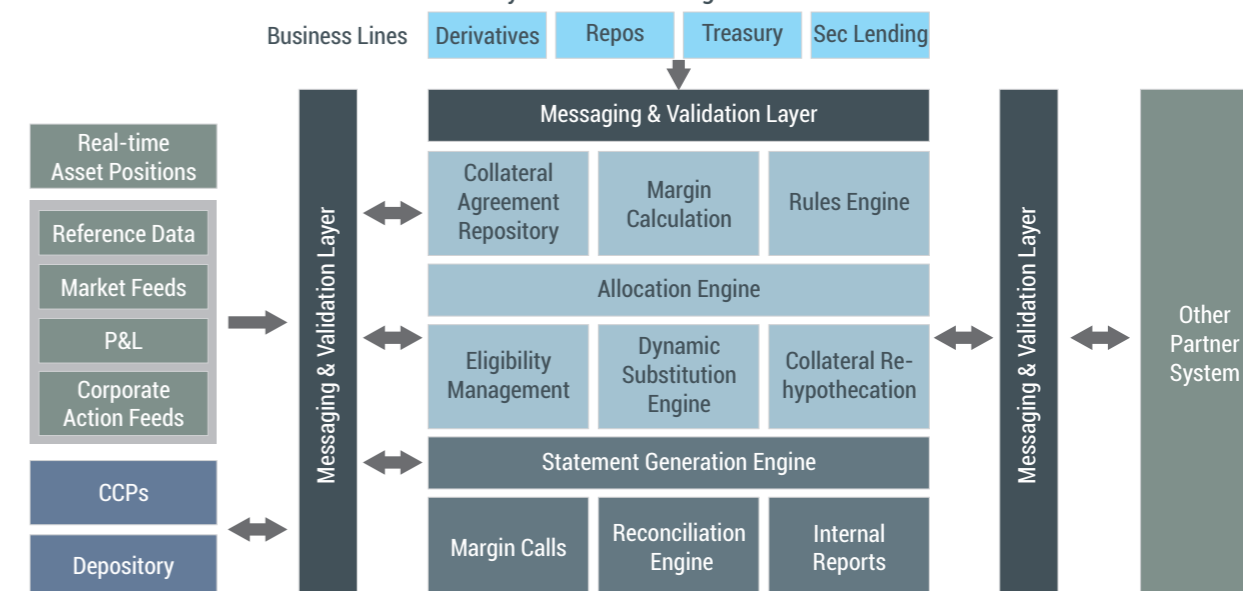
- Collateral Transformation – Collateral transformation is another form of Optimization. This is a process which enables the firms to exchange the available collaterals which have least levels of acceptability with the collaterals which are widely accepted, for a fee. The most common way of achieving this will be by means of a repo transaction, for an exchange of fee.
- Effective communication layer to enable STP - Firms should be able to automate most of the above activities which are part of Collateral

Management Lifecycle starting from the setting up of new collateral legal agreement till the settlement of collaterals between the counterparties. Firms should explore the utilization of standardized electronic messages like SWIFT

- Transparency - Firms must adapt to increase the transparency into the key collateral analyses, metrics and processes, and require increased communications between the collateral management team and the front office

The above mentioned areas, if integrated and automated, leads to a unified Collateral Management platform. This could be called as a Future-Ready Collateral Management solution. The functional architecture of the Future-Ready Collateral Management is depicted below:

Functional Architecture of the Future-Ready Collateral Management Solution



Conclusion

Though Collateral Management brings with it challenges to handle, it opens up gates of opportunities for financial firms, if dealt with efficiently and optimally. 'Change' is inevitable in this challenging environment and continuous influx of new and tighter regulations. This needs to be addressed strategically rather than looking out for tactical short-term solutions. Integrating and embedding "Intelligent technology" with the operating processes. This shall, in turn, provide an 'enterprise view' across asset classes and business lines capable of handling cross border collateral transactions will be a key enabler. Such technology should also be based on sound architecture which can handle future changes.

This will also ensure that the Collateral Management is optimized across geographies, business lines and asset classes, so that an exposure can be covered in the most cost-effective manner. Optimal Collateral Management also frees up quality collaterals which can be deployed in avenues yielding higher returns.

References

- Trends, Risks and Opportunities in Collateral Management - by DTCC
- BIS – Collateral Management Services - <http://www.bis.org/cpmi/publ/d119.pdf>
- <http://www.fca.org.uk/firms/markets/international-markets/emir>

Authors

Narayanan AK

Narayanan AK is a Lead Consultant with ITC Infotech in Risk and Regulation Solutions & Consulting space with over 9 years of experience in Capital Markets domain. His overall experience includes Business Analysis, Maintenance & Support of Business Applications, Handling Transitions, and Implementation of Regulatory Requirements in financial firms like Brokerages, Treasuries, and Custodians & Top Global Banks.

Ankur Kansal, FRM

Ankur Kansal,FRM, HeadsRisk and Regulation Solutions & Consulting in Treasury and Capital Markets, has 15 years of experience in Capital Markets focusing on risk management solutions and middle office transformation, regulatory compliance including EMIR, Dodd-Frank Act. Ankur is also a CFA charter holder and FRM designation holder.

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