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TRENDS, RISKS AND OPPORTUNITIES IN COLLATERAL MANAGEMENT

A Collateral Management White Paper

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INTRODUCTION

Collateral is viewed as both a solution to and a trigger of massive financial losses that occurred as a result of the financial crisis of 2008. In response, policymakers around the world have enacted new rules and legislation, such as the Dodd-Frank Act (DFA) in the United States, European Market Infrastructure Regulation (EMIR) and Basel III regulations, with the primary objective of increasing market stability and resiliency, enhancing transparency and reducing counterparty, operational and liquidity risk.

These efforts complement a wide range of industry initiatives designed to achieve similar goals. As a result, dynamic and rapid financial market changes are impacting the management, mobilization and transformation of collateral. This paper provides an overview of collateral and collateral management, highlights key drivers for change and discusses various solutions and opportunities to respond to regulatory and industry challenges.

I. THE BASICS: COLLATERAL VS. COLLATERAL MANAGEMENT

Collateral is the security provided by one party to another to mitigate counterparty risk for any extension of credit or financial exposure. In financial markets, collateral is broadly interpreted but typically includes cash, securities and, at times, commodities such as gold.

Collateral management is the efficient and effective allocation of collateral to reduce risk and encompasses both supply and demand components.

Demand Component: This component includes the reconciliation of deal/trade portfolios and the daily calculation of exposures based on price movements of both the trade/deal itself and any existing collateral. Once calculated, issued and sometimes negotiated, a margin call is executed with an agreed value. The margin call is typically processed in one of three ways depending on the parties involved:

1. Matched between bilateral counterparties,
2. Affirmed between prime brokers and their clients, or
3. Debited and settled between clearinghouses and their participants.

Supply Component: This component includes the efficient identification, aggregation, management and allocation of collateral to meet various exposures. Market participants cannot efficiently pledge collateral unless they know where it is located and can aggregate it accordingly. Once inventory is established, the collateral can be optimized. However, this is easier said than done because it requires the following:

- Reviewing the collateral eligibility criteria of the counterparty per the collateral agreement,
- Understanding the terms of the agreement with the counterparty,
- Calculating the relative costs and risks of putting a single piece of collateral to different uses,
- Taking into account the internal requirements of the in-house or third party source of the collateral, and
- Moving the collateral between accounts via networks of custodian banks.

Allocation is effectively the bridge between the demand and supply components to ensure that collateral requirements are fulfilled.

II. DRIVERS – TRENDS AND RISKS

Lack of Available Collateral to Meet Demand

Over the past few years, several organizations have attempted to calculate the amount of collateral that will be needed by financial firms as a result of new derivatives legislation, liquidity requirements and regulatory mandates. Driving the increase in collateral requirements are new rules that mandate central clearing for the majority of over-the-counter (OTC) derivatives trading and the introduction of robust operational controls and capital requirements for non-cleared, OTC derivatives trades. In practice, clearinghouses will have to impose initial margin requirements as well as reduce or eliminate thresholds for variation margin, which will dramatically increase the demand for high-quality collateral.

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.

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Despite the anticipated massive increase in demand for collateral, many financial institutions are either not fully cognizant of their pools of eligible collateral or unable to efficiently mobilize collateral to allocate it against specific exposures. As much as 15% of the collateral available to financial institutions is currently left idle, costing the global industry more than €4 billion a year, according to a recent joint study by Clearstream and Accenture. Furthermore, many firms are not optimizing their collateral, which could create a gap between supply and demand.

The inability to view all available collateral, along with limits on bringing it to bear in times of market stress, could exacerbate collateral shortfalls, particularly as a prelude to or during a financial crisis.

Margin Call Activity to Increase By Up to 1000%

A number of drivers are expected to dramatically increase margin call activity in the near future, and this will likely have a significant impact on liquidity and risk. Discussions with participants in the OTC derivatives markets indicate that this activity could jump 500-1000%. An existing study by the London School of Economics, funded by DTCC, is underway to validate these results.

The primary drivers of the increase in margin call activity are regulatory changes, clearing fragmentation, regional offerings and ISDA's new Standard Credit Support Annex (Standard CSA).

Regulatory Changes: Regulatory changes under both DFA and EMIR could require initial margin for both counterparties and a reduction or removal of thresholds for variation margin. The inclusion of initial margin will significantly increase the amount of collateral required and will create additional margin calls. In addition, the removal or reduction of thresholds for variation margin will mean any change in valuation may trigger daily margin calls. In the past, thresholds limited these calls to times of significant changes in underlying valuations.

Clearing Fragmentation: With new clearing requirements for OTC derivatives transactions, CSAs, which have historically covered an entire portfolio of deals with one margin call, now may exclude products offered by different clearinghouses. This may drive individual daily or even intraday margin calls for each clearinghouse. For example:

- interest rate swaps cleared by CME, LCH.Clearnet,
- credit default swaps (CDS) cleared by ICEClear, CME,
- equity derivatives cleared by Eurex, Options Clearing Corp (OCC).

This clearing fragmentation reduces the historical advantage of calculating margin across a multi-product portfolio. This may be exacerbated in the US by the regulatory requirement that creates multiple and distinct collateral accounts for specific types of underlying transactions being collateralized. For example, there are varying collateral accounts for security-based swap, non-security based swap, Future and Option, or non-cleared (bilateral) activity.

Regionalization: The potential creation of multiple regional clearing venues per product may have a splintering effect on collateral. It could increase the number of margin calls, and alter the mix of acceptable collateral globally. If this occurs, it could also lead to a dramatic rise in collateral requirements as the benefits of offsetting exposures experienced in today's portfolio exposure calculation is removed and margin reverts to being calculated on regional or gross basis. The introduction of these venues also contributes to increases in operational risk and settlement risk. This is due to the overwhelming surge in physical movements and settlement of collateral to these new regional venues and their potential region specific settlement criteria.

New Standard Credit Support Annexes (SCSA's): Credit Support Annexes establish rules that govern the posting of collateral for OTC derivatives. Historically, margin calls have primarily been met in EUR or USD for a host of reasons. ISDA's new Standard CSA looks to encourage better risk mitigation through matching the currency of the collateral with the currency of the underlying trade. The challenge to date with this approach is that both the volume and complexity of collateral calls and their settlement will increase as a result. Under the SCSA, margin calls potentially are in at least the five main G20 currencies (U.S. Dollar, Euro, Japanese Yen, British Pound and Swiss Franc) to start. Depending on the portfolio under the SCSA, margin calls could be in as many as 17 currencies in the future.

Impact on Firms of New Collateral Requirements and Margin Activity

The dynamic nature of regulatory changes is making it extremely difficult for industry participants to keep their internal systems, workflows and procedures responsive to new challenges. Many firms are reasonably concerned because the increase in collateral requirements, along with the subsequent increase in underlying margin activity, is expected to have an impact on costs and risk in a number of areas:

> The anticipated ten-fold increase in margin call volumes, and the resulting complexity due to market changes, has the potential to overwhelm the current operational processes and systems infrastructure within banks, buy-side firms and their administrators.

Funding Costs: Funding costs are expected to rise due to three factors:

1. The increase in volumes and total currency amounts will require firms to fund larger cash balances to meet expected margin calls.
2. In the OTC derivatives market, it is standard practice to anticipate margin call currency amounts and attempt to offset these calls to reduce the capital that needs to be on-hand to meet any given margin call throughout the day. With the increase of margin calls and the risks associated with not meeting a call, institutions will need to further increase their liquidity buffer to ensure all calls can be met.
3. Lack of certainty around intraday obligations and settlements will magnify intraday exposures and funding squeezes during times of extreme market stress. This was evident during the 2008 financial crisis.

Operational Capabilities and Settlement Exceptions Management: The potential ten-fold increase in margin call volumes, and the resulting complexity due to market changes, could overwhelm the current operational processes and system infrastructures within banks, buy-side firms and their administrators. As a result, firms will need to invest in technology and also reengineer the settlement, exceptions management and dispute resolution processes in place today. According to a 2011 Deloitte paper, investments in operations required to build and sustain advanced collateral capabilities is estimated at upwards of $50 million annually for top-tier banks.

Reporting and Recordkeeping: The increase in margin call volumes will necessitate more comprehensive record keeping across a broad category of services.

While collateralization is a distinct activity from trade settlement, it moves through the industry pipes like other security and cash processes. As a result, the participants, custodians, investment managers, pensions funds and others in the chain are tasked with distinctly identifying collateral movements from settlement movements to ensure collateral is readily available to be returned or used to cover exposures in times of stress. Tracking and identifying the distinct collateral transaction is an exceptionally labor intensive and time consuming event. The increase in margin call activity will only deepen the challenge for the industry and increase credit, market and/or operational risk.

In addition, there are many fragmented processes and solutions today that address deal reconciliation, margin disputes, margin call reporting and settlement reporting. The increase in margin calls and the fragmentation of the environment will further inhibit tracking and reporting of collateral activity and collateral balances.

Transparency Critical for Managing Risk

During periods of extreme market stress, the volume and value of margin calls increases exponentially. The inability of firms to seamlessly connect collateral obligations and their ensuing settlements creates opacity in the market and leave counterparties prey to rumors or at a minimum incomplete information. This, in turn, has the potential to cause destabilizing market reactions and impact the decision-making of policymakers responsible for managing the crisis. Recognizing the challenge for transparency, regulators are becoming more interested in collateral reporting. This is evident in exposure reporting to trade repositories, margin dispute reporting and recovery and resolution reporting needs.

Capital Relief

With the introduction of central clearing and same day margining, there is a gap between how quickly a bank will be able to meet a margin call versus how quickly the collateral can be collected from the underlying investment manager or dealer. This timing gap is essentially an extension of credit and, therefore, draws a capital charge. By streamlining the availability, mobilization and settlement of collateral from the investment manager more quickly, the gap can be reduced and capital relief provided to the bank.

Segregating Collateral

Regulatory requirements for segregated accounts are changing globally in response to recent financial upheaval, driven by the loss of client assets or delayed access to them. Events like Lehman Brothers and MF Global have further undermined trust between counterparties. While adding greater safety and transparency regarding the safekeeping of collateral, these requirements are expected to produce a surge in the number of accounts while adding greater complexity to segregation models. At the same time, these requirements will challenge the technology of many providers who are currently safely holding these assets for the public.

Strategic vs. Costly Fragmented Solutions

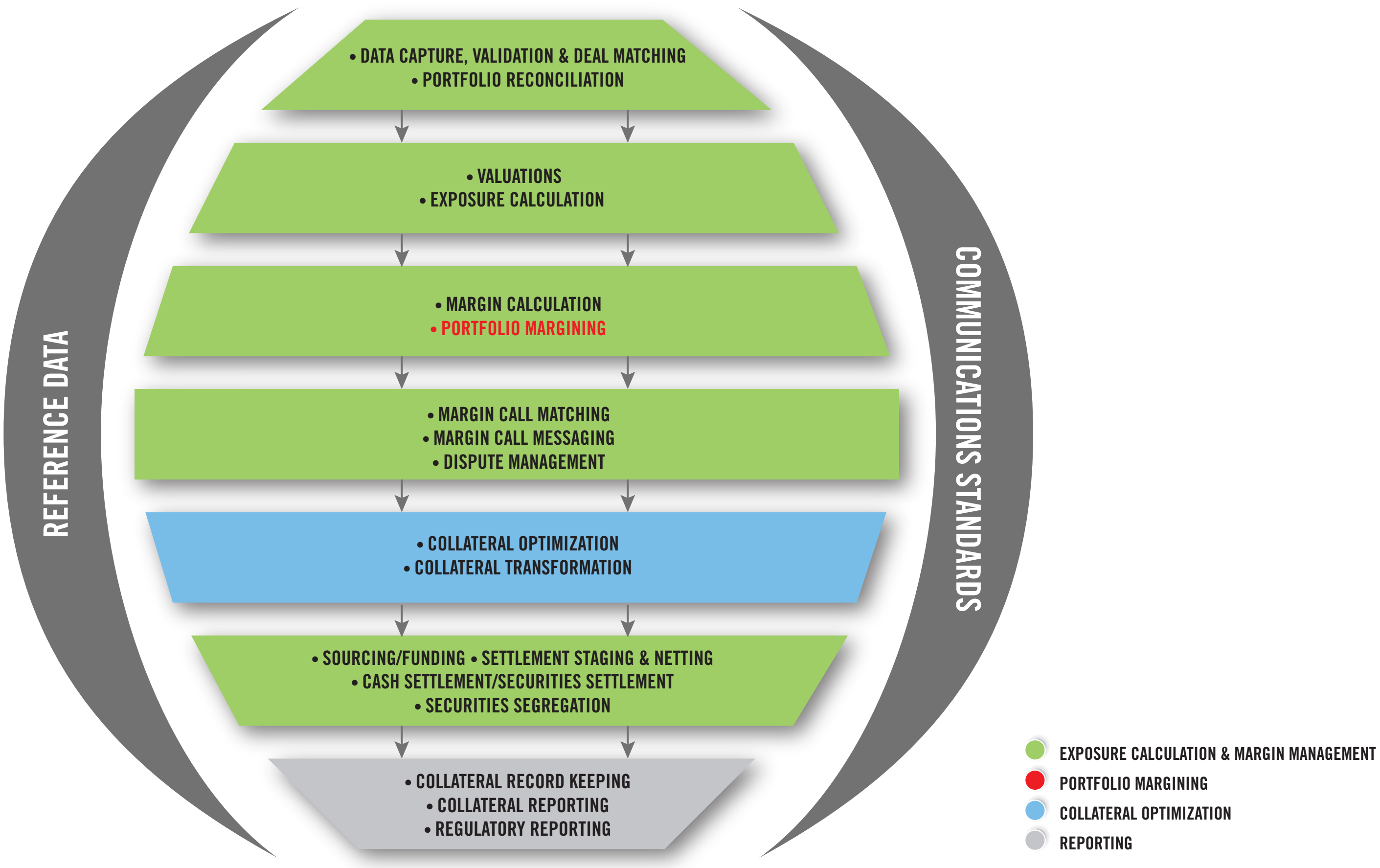
A broad mix of industry participants, including broker/dealers, large and small asset managers, fund administrators and custodians have indicated that they would prefer strategic solutions to address the challenges related to collateral to avoid costly fragmentation.

For example, one of the major pain points for prime services providers is the cost of operating separate clearing platforms for listed and OTC derivatives, including different platforms for the U.S. and Europe. These varying platforms fragment margin processing and collateral management. By their nature, strategic solutions require partnerships between providers, as well as an alignment of industry standards and process to ensure success. But the ensuing interoperability introduced in the collateral realm could create a foundation for more scalable solutions, which would help reduce operational risk as well as costs.

III. SOLUTIONS AND OPPORTUNITIES

The dramatic changes that are rippling across the market are spurring new solutions and opportunities in collateral management. Some offerings focus on specific problems while others represent elements of larger strategic initiatives. Collateral solutions can generally be grouped into the following six categories:

1) Exposure Calculation and Margin Management
2) Portfolio Margining
3) Collateral Optimization
4) Record Keeping and Reporting
5) Communication Standards
6) Reference Data



While not all collateral processes have these functions, the vast majority follow this model.

Exposure Calculation and Margin Management

Collateral processing solutions need to minimize operational risk, create scale and reduce costs. The greater the ability to link and integrate the various collateral processes, the more market participants will secure the benefits of straight-through processing. There are a variety of in-house and outsourcing options for collateral processing which often support a variety of client types including the buy-side and sell-side.

For example, portfolio reconciliation tools enable participants to reconcile deals or transactions and valuations that are the primary inputs to calculate margin calls. These tools may be specific to the data being matched by trade repositories or customized reconciliations for margin processes.

There are also various calculation engines that compute variation and initial margin. These may be part of a collateral management solution at the client or provider level or even computed by clearinghouses or utilities. Future opportunities include industry solutions to calculate initial margin for the OTC bilateral derivative markets similar to the calculation of initial margin for clearinghouses.

In addition, a number of providers are offering tools to agree and communicate margin calls. These tools may be industry solutions or developed specifically by various providers such as custodians, administrators or prime-brokers.

Many collateral settlement functions can be automated similar to the way trades are matched and settled. Cash and securities settlement netting and segregation are all value-added functions that can provide operations, risk and financing benefits to market participants.

There are also multiple types of segregation services offered; many specific to a product or jurisdiction. Solution providers are offering various capabilities for segregated accounts such as daily and intraday collateral substitutions and collateral valuations. Developing a standard infrastructure to support these segregation requirements globally will be critical given the growth and complexity of segregated accounts.

Portfolio Margining

Portfolio margining focuses on the demand side of the collateral management solution. The goal of portfolio margining is to calculate a margin requirement for a portfolio of exposures in such a way that offsetting risks are used to reduce the requirement for collateral. For example, a counterparty holding an equity option is able to offset that exposure against the underlying equity or an equity index in order to reduce the margin that must be posted. Portfolio margining is more common in the futures and swap markets, but will continue to be a focus in collateral management in the years ahead.

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Collateral Optimization

Collateral optimization is essential to addressing and resolving the gap between collateral supply and demand. The key functions of collateral optimization include:

- identifying collateral held in various locations,
- pooling collateral to meet various exposures,
- allocating collateral in an efficient way, such as based on price, risk, liquidity, haircuts and financing costs, and
- creating networks to facilitate the efficient flow of collateral between counterparts.

Solution providers currently offer all or some aspects of these services. It is increasingly clear there is a strong desire among market participants to allocate pools of collateral not only on a daily basis but intraday, and across geographic locations and jurisdictions. Some providers are extending their services to help clients determine the optimal venues to execute and clear their trades by pricing the benefits and risks of collateral into the client's execution and clearing decisions.

Collateral transformation is another form of collateral optimization. It allows firms to exchange collateral that may not be acceptable due to credit, liquidity or other reasons with collateral that is considered acceptable. For example, a firm that is required to pledge cash as margin but has only securities on hand may use collateral transformation to exchange these securities for cash to meet the margin requirements. There are many different mechanisms to transform collateral, including stock-lending, repo transactions and structured deals. Solution providers, including custodians, dealers, prime-brokers and central security depositories, offer such services but are tempered by balance sheet considerations and changing capital requirements. There are also a range of operational, market and credit risk implications to offering transformation and optimization services.

Recordkeeping and Reporting

Collateral reporting is a critical risk management tool yet it is often overlooked. Global trade repositories for derivatives that hold collateral data have the ability to identify potentially large margin calls that could be difficult for firms to satisfy. Repositories can also provide the tools to track "payment failures" across jurisdictions that may not be visible to individual national or regional authorities.

Standardization of reporting is another area of focus as it eliminates the need for firms to assimilate and manage data. There are multiple solutions on the market today that provide reports using a range of distribution mechanisms, but these reports often come in unique formats and include different data. There is currently an industry initiative to standardize margin reporting for cleared OTC derivatives to resolve these issues.

Communication Standards

Among the most critical factors for successful management of complex collateral processes is leveraging standard messaging platforms for collateral processing and collateral settlements. Standards for margin call workflows and disputes are still developing. Standard messaging to communicate margin calls and settlement activity is particularly critical given the growth of interconnected players and segments in the collateral markets, such as the expanded use of administrators to support buyside collateral processing and the growth of clearinghouses globally.

Reference Data

Standard pricing of collateral and trades/deals is a major input into the margin calculation process and the cause of many margin disputes. The quality and content of the data in the securities masterfile is important for optimizing collateral. Standard settlement instructions that leverage industry infrastructure will help ensure that collateral is delivered to the appropriate location while Legal Entity Identifiers (LEI) will allow for more accurate client identification and reporting.

CONCLUSION

As noted throughout this white paper, the evolving regulatory environment will continue to place significant pressures on financial firms and create myriad challenges for managing collateral. With margin call activity expected to increase by as much as 1,000% and given the increasing demand for collateral, this will have a major impact on both liquidity and risk – the operational nightmare scenarios are endlessly identifiable. In an environment where cost benefit analysis rules the day, the industry is looking to harness market infrastructures to help solve this issue. Firms are growing wary of fragmented approaches that may deliver limited operational cost and risk benefits. The reality is that collateral challenges will be far more extensive than what has been reported thus far, and in many cases, fragmented solutions will only address certain parts of the problem. This will only leave firms struggling to cope with the enormity of the situation in years to come. Therefore, it is essential that strategic collaborative solutions are employed to the greatest extent possible to leverage the expertise and knowledge of multiple providers as well as address the issue in a more holistic manner. Toward that end, DTCC is continuing to collaborate with industry partners to develop solutions that address the operational costs and risks associated with the increased demand for collateral.

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