Charles River
A State Street Company

TABB FORUM
WHERE CAPITAL MARKETS SPEAK

A Buy-Side Framework for Managing OTC Derivatives

Several regulatory and structural drivers are affecting buy-side usage of OTC derivatives, leading to higher trading costs and a fundamental reshaping of technology infrastructure for managing derivatives. Charles River Development discusses those challenges and proposes a buy-side framework for managing the entire OTC trade lifecycle.

OTC derivatives provide significant economic value to buy-side firms looking to manage risk, reduce borrowing costs, restructure cash flows or establish speculative positions. The ability to tailor these instruments to the unique requirements of each market participant also creates substantial complexity that must be clearly understood and effectively managed.

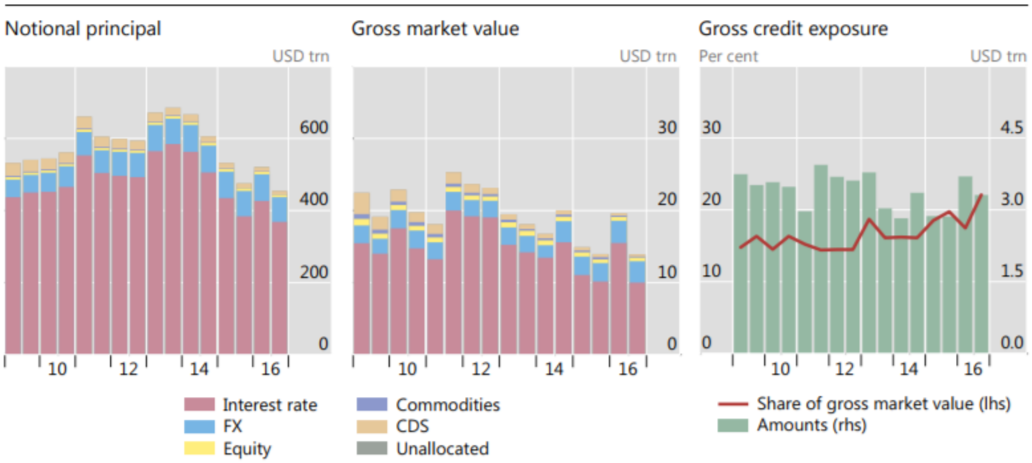
Several regulatory and structural drivers are affecting buy-side usage of OTC derivatives, leading to higher trading costs and a fundamental reshaping of technology infrastructure for managing derivatives. This article discusses those challenges and proposes a buy-side framework for managing the entire OTC trade lifecycle.

According to the Bank of International Settlement, OTC derivative notional principal continues to dwarf that of exchange-traded derivatives, with total outstanding positions of OTC derivative contracts currently estimated at USD 420 trillion.

In global credit markets, credit default swaps (CDS) witnessed sharp declines in outstanding notional, to USD 9.9 trillion from last year's USD 11.8 trillion. Declines were concentrated in uncleared contracts, while notional outstanding for contracts cleared at Central Counterparty Clearing Houses (CCPs) remained stable, at USD 4.3 trillion.

Trade compression has been a significant driver behind the decline, as buy-side firms reduce outstanding contracts and counterparties. On the sell side, dealers continue downsizing balance sheets by eliminating redundant contracts to comply with increasingly stringent capital and leverage rules.

Global OTC derivatives markets[1] Graph D.2



Further information on the BIS derivatives statistics is available at www.bis.org/statistics/derstats.htm.

[1] At half-year end (end-June and end-December). Amounts denominated in currencies other than the US dollar are converted to US dollars at the exchange rate prevailing on the reference date.

Source: BIS derivatives statistics.

Trade compression has been driving the decline in notional principal, with IRS seeing the greatest impact.

Mandatory On-Venue Execution and Central Clearing

On the regulatory front, the common themes underpinning Basel III, MiFID II and Dodd-Frank are risk reduction, greater transparency and enhanced price discovery. Whether the regulations will achieve those lofty objectives remains a point of vigorous debate. An important consequence of these regulations is the increased migration of OTC derivatives trading onto Organized Trading Facilities (OTFs), Swap Execution Facilities (SEFs) and Multi-lateral Trading Facilities (MTFs).

MiFIR, responsible for implementing parts of MiFID II, maintains guidelines for determining which OTC derivatives should be traded on-venue, based on liquidity profiles and other suitability criteria. In September, ESMA published the latest on-venue trading directive, mandating that fixed-to-float rate swaps denominated in EUR, USD and GBP and iTraxx Europe Index CDS are now subject to on-venue trading.

Three major regulatory initiatives are driving the trend toward central clearing and on-venue trading of OTC derivatives.

BASEL III	• Capital Requirements • Leverage Ratio • Liquidity Requirements • Margin Requirements
MiFID II & EMIR	• Central Clearing • Post trade transparency reporting • Risk Mitigation
Dodd Frank Act	• Mandatory Execution via SEFs • Clearing via CCPs • Report via SDRs • Business conduct standards

Central clearing venues are hardly rushing to open shop, given the capital-intensive and risk-centric nature of clearing operations. CME Group recently announced that it will exit credit default swap clearing by mid-2018, freeing up $650 million in clearing member capital. CME plans to continue providing OTC clearing services on interest rate swaps (IRS) and foreign exchange (FX).

Under MiFID II real-time trade reporting for OTC derivatives will become mandatory on Jan. 3, 2018. Derivatives broker-dealer quotes and execution prices will be published by Approved Publication Arrangements (APAs). This initiative mirrors the Swap Data Repository implemented under the Dodd-Frank Act.

Libor's Lurking Retirement

This summer, the UK's Financial Conduct Authority announced that it would no longer mandate that its panel banks submit rate data for daily LIBOR fixing. LIBOR's flawed construction based on submitted estimates instead of actual transactions allowed LIBOR to be easily manipulated. The resulting LIBOR-rigging scandal set off a debate on what constitutes an objective risk-free rate. With LIBOR serving as a benchmark rate for an estimated $350 trillion in OTC and exchange-traded derivatives, identifying and implementing suitable replacement benchmark rates will impact instrument valuations across the globe. Determining legacy OTC derivative valuations will be especially thorny, as LIBOR is their contractually mandated benchmark rate.

Rising Collateral Costs

As a byproduct of regulatory mandates for central clearing, collateral costs have increased, as broker-dealer clearing members incur costs to their CCP, which are then passed along to buy-side clients. Additional drivers of higher collateral costs include currency exposures, liquidity concerns and a reappraisal of settlement risk.

Managing Multi-Faceted Risks

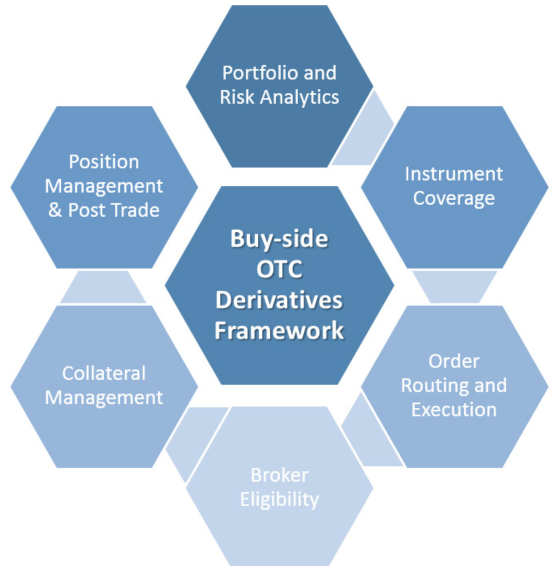
OTC derivatives are impacted by a number of risks, which can be managed to varying degrees by asset managers and sell-side firms.

- **Market risk** to a portfolio driven by macro factors such as inflation and geopolitical events.
- **Liquidity risk**, especially when unloading the derivative's underlying security or closing out existing positions.
- **Counterparty solvency** issues that can significantly affect future cash flows.
- **Operational risk** includes managing a portfolio close-out or block-level unwind, notifying the counterparty that an event of default has occurred, and replacing transactions in the market.
- **Collateral risk** that requires additional cash payments on top of a liquid benchmark asset and additional haircuts.
- **Settlement risk** around intraday open positions with a particular counterparty. Both BIS and ISDA have published documents detailing OTC derivatives settlement best practices.
- **Legal risk** on interpretation of ISDA contract master terms. As a recent example, the ISDA determinations committee was unable to decide if heavily indebted Noble Group was in default or not, creating a vacuum that allowed bilateral claims to proliferate across the market.

A Buy-Side Framework for OTC Derivatives

In response to these regulatory and structural drivers, asset managers are scrutinizing their risk, trading and collateral management platforms. Siloed front- and middle-office infrastructure poses serious challenges for firms that traditionally managed only physicals, and whose patchwork of legacy systems are ill-suited for the complexities of derivatives. The framework proposed in this article helps ensure that all necessary capabilities are provided on a single technology platform, spanning the front and middle office.

Overview of the proposed OTC derivatives framework



Portfolio and Risk Analytics

Derivatives give portfolio managers considerable flexibility to implement investment ideas in an agile, cost-effective manner. When managers form a thesis on whether to buy or short a particular entity or issuer, the investment vehicle to achieve that goal can be selected based on market conditions, arbitrage opportunities, past execution quality, or availability. A portfolio manager can choose the specific issuer and then decide to generate different securities to match the investment objective. For example, gaining equity exposure to a foreign entity might involve trading CFDs, single-name CDSs and options, in addition to equity shares.

Given the structural complexity and limited liquidity of most OTC derivatives, accurate valuations and real-time portfolio analytics are key to understanding fair value and risk sensitivities. Calculating analytics and valuations using a single valuation engine eliminates conflicting valuations that can undermine confidence in front office technology.

A properly designed framework supports pre-trade decision making, in-trade valuation, and position P&L calculation. A number of disparate data sources must be integrated and validated, including reference data, yield curves, volatility surfaces and real-time market prices. Effective data management is critical, as even a single erroneous data point on a curve can lead to significant swap mispricing. Robust scenario analysis capabilities are also needed, allowing portfolio managers to apply rate and credit shocks to a portfolio in order to understand price impacts, exposures, duration requirements, and credit DV01 under different rate regimes and market conditions.

Order and Execution Management

Consolidated order and execution management provides firms with a complete view across the entire trade lifecycle for all asset classes. This is especially important when derivatives are used in a cross-asset trade involving physicals. Traders can review the detailed terms and conditions attached to a derivatives order as well as instrument and liquidity indicators. Documenting ISDA, CDEA, CSA agreements and broker trading limits enables the system to dynamically update counterparty credit limits.

The ability to archive price and quote snapshots provides an important analytical tool that helps traders understand historical trade performance. The data can then be analyzed across any dimension, including maturity, index, underlying, or issuer, a critical capability for helping firms demonstrate best execution. Trade compression capabilities are also critical, enabling OTC desks to manage fewer tickets and positions, and reducing the number of required cash transfers.

Broker Eligibility

A long-running challenge for trading desks is their ability to understand eligible counterparties, based on ISDA master agreements, clearing agreements, or client-specific mandates. Traders had to rely on their compliance or operations teams, or maintain spreadsheets to check counterparty agreements before soliciting quotes from dealers. A buy-side framework should enable traders to view broker eligibility at the time of trade, and provide visibility into whether the broker can execute the full notional of the contract or whether to split and execute in phases. A pre-trade clearing eligibility check provides traders with confidence that the trade will clear. This reduces potential information leakage, expedites execution and eliminates trading risk and settlement delays.

Ensuring connectivity to a growing number of Swap Execution Facilities, Multi-lateral Trading Facilities, Organized Trading Facilities, and clearing houses is mandatory, given the regulatory momentum toward on-venue trading. These venues provide traders with direct market access, enabling efficient price discovery, the ability to implement trading ideas quickly, and execute trades with minimal market impact.

Position Management & Post-Trade

Supporting OTC derivatives within the same platform as cash bond and equity positions requires robust position management. An Investment Book of Record (IBOR) maintains an intraday view of cash and positions across asset classes, allowing firms to understand counterparty exposures at any level of granularity. Portfolio managers are able to review their holdings and generate ideas by taking funding requirements into consideration. IBOR can process and project cash flow payments, including asset- and mortgage-backed security pay-downs and swap cash flows. Additionally, the position data maintained in IBOR can be accessed by performance attribution and risk management systems, providing the front and middle office with consistent and accurate position data.

For post-trade operations, a framework must provide connectivity to third-party trading confirmation and affirmation platforms. This helps the operations team understand settlement status, matching exceptions in a centralized workspace. It's also critical for operations to have current views of netted cash payments by counterparties across all derivative positions and individual payments based on specific contracts to ensure all payment obligations are met.

Instrument Coverage

The economic utility of OTC derivatives is driving considerable financial engineering and development of new use cases. Technology vendors invest significant resources supporting derivatives in new geographies and currencies, some of which follow non-standard valuation conventions. A broad range of instruments and their attendant analytics must be constantly maintained, validated and modified across dozens of different jurisdictions and currencies.

Collateral Management

Collateral management is an increasingly important component of the OTC derivative management framework. Tracking initial margin and variation margin and managing Credit Support Annex (CSA) documents is necessary for trading desks to answer collateral calls. Operations staff access a collateral management dashboard for recording, reconciliation, identifying eligible collateral, and selecting and tracking collateral.

Under a CSA, counterparties agree to collateralize the net of mark-to-market exposure with a defined pool of eligible securities. A CSA focuses on OTC derivative trades collateralized on a bilateral basis. ISDA has also published best practices on OTC Derivatives collateral management to ensure operational workflows are well established for market participants. Both the EU and CFTC regulatory roadmaps indicate a number changes ahead, placing a premium on extensible and flexible collateral management capabilities.

Over-collateralization is also a concern, encumbering scarce collateral unnecessarily. A holistic view of collateral gives the operations desk a better sense of haircut levels, unsecured creditors and relative positions. In recent years, buy-side firms have also priced in the opportunity cost of the exchange of collateral, whether physical or cash, as part of their contract fair value calculation process. Re-hypothecation and security lending must also be taken into account when performing valuations, introducing additional complexity that must by properly managed.

The Road Ahead

Realizing both the benefits and complexity of managing OTC derivatives, technology vendors are offering enterprise solutions that help firms manage all aspects of the derivative lifecycle, from portfolio and risk analytics through to collateral management, valuation and post trade. But technology is only part of the solution. The economic utility and flexibility of OTC derivatives are well established, with benefits to buy-side firms far outweighing growing regulatory obligations and rising collateral costs. Firms with the right technology framework in place are well positioned to continue benefiting from these innovative instruments.