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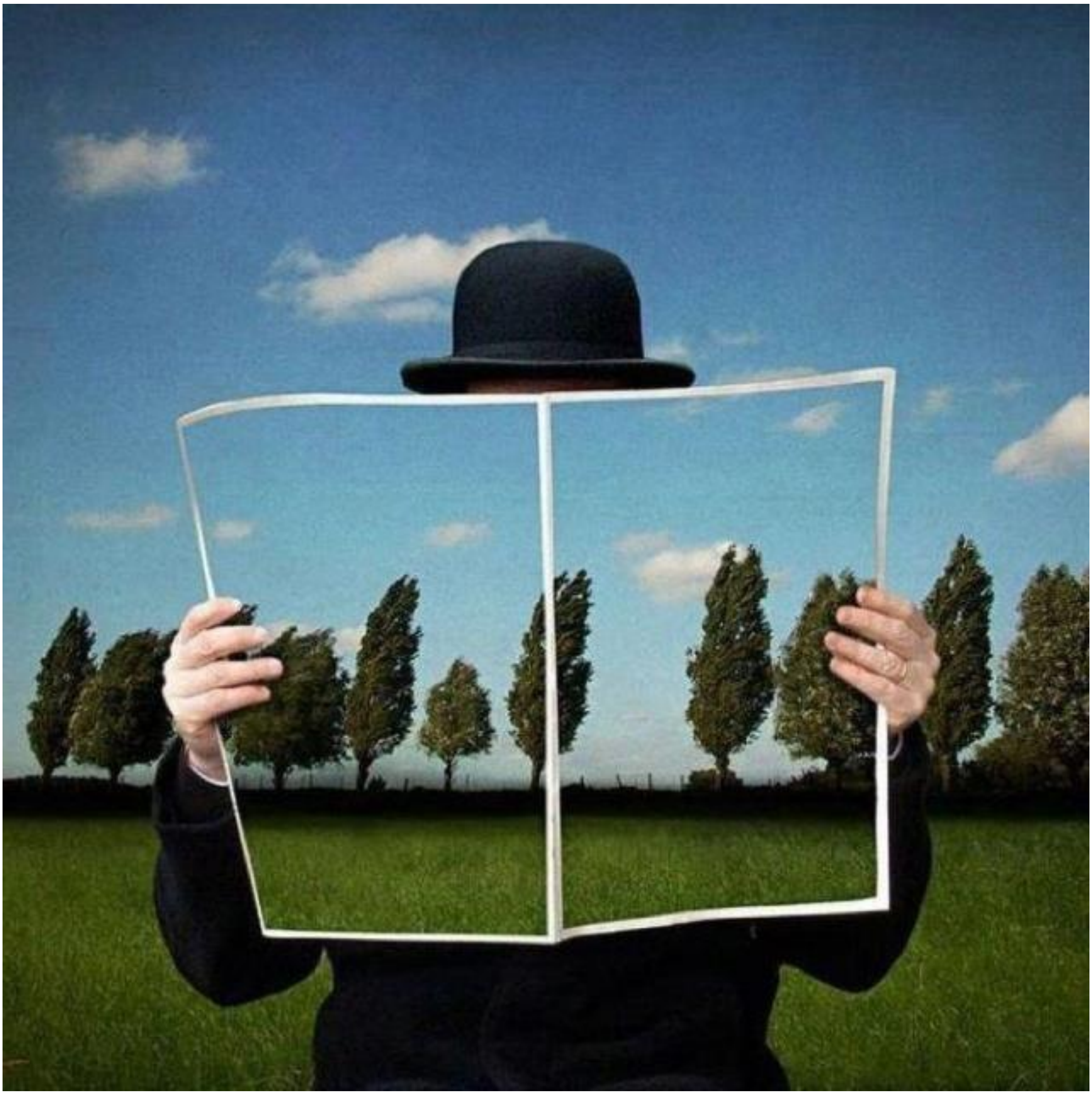
DERIVATIVES ADVISORY



Buy-side Participation in OTC Derivatives Markets

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Glossary

CCP	Central Counterparty
CTD	Cheapest-to-deliver
CSA	Credit Support Annex
EMIR	European Market Infrastructure Regulation
FRS	Financial Reporting Standards
IFRS	International Financial Reporting Standards
ISDA	International Swaps and Derivatives Association, Inc.
LDI	Liability-driven Investment
LIBOR	London Interbank Offered Rate
MiFID	Markets in Financial Instruments Directive
MiFIR	Markets in Financial Instruments Regulation
MMFs	Money Market Funds
MVA	Margin Value Adjustment
OIS	Overnight Indexed Swap
OTC	Over-the-counter
SONIA	Sterling Overnight Index Average
SIMM	Standard Initial Margin Model
TRS	Total Return Swaps
UMR	Uncleared Margin Rules
xVA	Derivatives Valuation Adjustment (includes all of CVA/DVA/FCA/FBA/KVA/MVA etc.)

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1 Introduction

Buy-side institutions have very different business models to their dealing counterparties on the sell-side, and operate under a separate regulatory framework. Whilst banks will usually seek to run a balanced book of derivatives, buy-side institutions are often running highly directional portfolios as they seek to hedge the liabilities of pension fund clients or express macro-economic views. This can result in buy-side institutions being extremely sensitive to shifts in derivative pricing.

Amongst other things, sell-side dealers must constantly evaluate the cost of financing collateral, whilst also seeking to optimise their derivatives exposures to minimise the capital they must set aside under banking capital regulations. In contrast, buy-side institutions are often trading on behalf of clients that tend to be asset-rich, which means they often have the ability to source eligible non-cash collateral from amongst the assets a client already owns.

The derivatives market has been through a period of great change, and some aspects of pricing and regulation remain in flux. As markets evolve further and participants seek to converge towards best practice, buy-side institutions have their own set of priorities as they seek to adapt. Solum Financial has drawn upon its understanding of both the buy-side and sell-side industries to create this white paper.

2 Derivatives Collateral and Credit Support Annexes (CSAs)

Buy-side institutions appreciate that the type of collateral can have a significant impact on the pricing of bilateral over-the-counter (**OTC**) derivatives. Despite this, few have embraced the move towards cash-only CSAs with any great enthusiasm.

The pension fund clients behind most liability-driven investment (**LDI**) mandates tend to be long-term holders of gilts, and their asset managers are generally keen to retain the ability to post gilts as collateral. This is partly because maintaining a cash balance for margin purposes dilutes performance, but also because for managers whose client's already own gilts, it is perceived that there is no additional cost incurred in posting it as collateral. Many on the buy-side observe that there can be inconsistencies between the cost of funding in the term repo market and the implicit cost of posting gilts as collateral under a cash and gilt CSA.

Whilst fund managers have been more willing to move to cash-only CSAs for non-LDI clients, this is often seen as an interim step on the road to clearing swaps through a central counterparty (**CCP**). European pension funds are currently exempt from the European Market Infrastructure Regulation (**EMIR**) obligation to clear, and regulators have recently proposed to extend this for a further three years, reducing the direct incentive to move to clearing.

Multi-currency CSAs are now being phased out, but not all legacy CSAs are being retired immediately. Rather than crystallise the shift in valuation triggered by changing the terms of a CSA, many buy-side institutions have opted to leave legacy trades on old CSAs.

3 Derivatives Pricing

Buy-side institutions now take some CSA terms into account, in particular certain of those relating to collateral, especially when seeking to novate or unwind a swap. When valuing a swap, many will add a spread to the Overnight Indexed Swap (**OIS**) discount curve as a means of reflecting the cheapest-to-deliver (**CTD**) optionality that arises in CSAs where both cash and gilts are deemed eligible collateral. The determination of this spread remains problematic given that the term repo market is not liquid at longer tenors, but this problem is not unique to the buy-side.

Where a divergence between the buy-side and sell-side does become apparent is in their respective approaches towards derivative valuation adjustments (**xVAs**). Banks have created xVA desks to manage their exposure and the accounting treatment of derivatives has been a key driver in the move to reflect certain valuation adjustments in fair value. The application of xVAs to derivatives pricing remains an area of active debate, even amongst dealers, but the principle of reflecting associated costs and benefits via pricing adjustments is now well established.

Buy-side institutions trading OTC derivatives on behalf of pension funds do so almost exclusively on a collateralised basis subject to daily adjustment. This means that counterparty credit risk only applies to the margin period of risk, vastly reducing the magnitude of associated costs.

Whilst the buy-side is aware of the changing capital regulations that impact derivatives pricing, some have observed that there is little consistency between dealers and at trade inception it can be difficult to identify valuation adjustments amongst the other factors that influence the price. Buy-side participants note that xVAs are still a rapidly changing landscape, and for example, there is little clarity over how dealers will seek to pass on the costs attributable to initial margin, so called Margin Value Adjustment (**MVA**).

Buy-side institutions are currently prioritising development resource towards pressing regulatory initiatives such as Markets in Financial Investments Regulation (**MiFIR**) and Markets in Financial Instruments Directive (**MiFID II**). Whilst buy-side traders can see that xVAs become meaningful when they look to unwind or novate a derivative that has a significant mark-to-market value, many are able to defer difficult negotiations by trading a new, on-market, derivative to offset the risk.

Similarly, it is clear that buy-side institutions will need to have a good grasp of valuation adjustments if and when the backloading of bilateral swaps into clearing becomes a practical necessity.

4 OTC Valuations

Although buy-side participants will highlight inconsistencies in banks' pricing of valuation adjustments, the buy-side still faces its own valuation challenges. Whilst collateral terms may be factored in at trade inception, with valuation adjustments potentially also considered when the front office seeks to unwind or novate a trade (albeit in a less formalised manner), internal valuations for portfolio management and collateral administration purposes may be less sophisticated.

Given the widespread involvement of third party administrators and external independent pricing providers it is not always clear on which basis client valuations are determined – many buy-side institutions will have access to multiple valuation providers and the methodologies used may vary between client type and product, or indeed by instrument.

Nevertheless, the fair value requirements of International Financial Reporting Standard (**IFRS**) 13 and Financial Reporting Standard (**FRS**) 102 are explicit. FRS 102, paragraph 2.34(b) defines fair value as "*the amount for which an asset could be exchanged, a liability settled or an equity instrument granted could be exchanged, between knowledgeable, willing parties in an arm's length transaction*".

Some buy-side institutions point out that they are genuinely able to 'buy and hold' swaps that are hedging liabilities, and they are not forced to unwind, bringing into question where it is appropriate to apply 'exit' pricing.

With segregated client portfolios the absence of collateral and xVAs from a valuation does not deprive a client of value – the client still receives the cashflows or the eventual unwind value. However, cashflow events that may depend on derivatives valuations need greater attention.

5 Collateral Management and Funding

Whilst the pricing of derivatives for trading purposes now encompasses numerous adjustments, it does not appear that banks are consistently reflecting these in the valuations they provide to the buy-side for collateral purposes. Buy-side institutions have observed that some dealers are sending valuations that are based on simple OIS discounting, with perhaps some CTD discounting applied inconsistently, even within valuations from a single counterparty. Whether this is due to shortcomings in dealer systems or because dealers wish to minimise the number of collateral disputes is not clear at present.

Buy-side institutions are aware of the importance of the repo market as a source of funding for cash variation margin, and are in the process of building up their internal repo capabilities. There remains, however, a wariness over using short-term repo to fund the margin requirements of long-dated swaps. The lack of liquidity in longer-term repo remains problematic, and helps to explain why buy-side institutions are loathe to give up the ability to post gilts as collateral for non-cleared trades.

The relative merits of Total Return Swaps (**TRS**) on gilts versus the repo market is an area of focus. Whilst the convenience of being able to trade TRS under existing International Swaps and Derivatives Association, Inc. (**ISDA**) agreements is a consideration, the willingness of dealers to quote on much longer maturities in TRS than in repo is seen as a key benefit.

Buy-side institutions are exploring further developments in this area such as peer-to-peer repo, sponsored repo clearing and increasing the participation of Money Market Funds (**MMFs**) in the repo market. MMFs are becoming a key part of the buy-side collateral management toolkit. Same-day settlement can now be achieved with externally-managed MMFs helping buy-side institutions generate an income on cash collateral received. Solutions that permit MMF units to be posted as collateral are attracting interest, and there is now a developing repo market in MMF units which could mitigate the impact of collateral cashflows moving in and out of the funds.

6 OTC Clearing

Solum notes that buy-side institutions are divided into two schools of thought when it comes to clearing swaps voluntarily. Those that were early to adopt OTC clearing remain confident that they have made the right decision and are clearing most new interest rate and inflation derivatives. Proponents of OTC clearing believe that they receive better pricing and have greater visibility on what it will cost them to unwind or restructure a swap. Cleared swaps can also be traded electronically, without the pre-trade delays that can be experienced in the bilateral market as trades are referred internally to xVA desks, thus permitting a more nimble approach to trade execution.

Whilst most buy-side institutions are fully prepared for clearing and have conducted test trades, a significant proportion are making use of the pension exemption (EMIR Article 89) to keep the bulk of their derivatives exposure in the bilateral market. Recent developments on the European regulatory front mean some managers now question whether smaller clients will ever be compelled to clear their swaps.

Institutions that have delayed clearing raise a number of inherent drawbacks. Clearing introduces a layer of additional operational cost, whilst the need to fund variation margin with cash can be problematic for LDI accounts. More fundamentally, some buy-side institutions are concerned that the ability of a clearing broker to terminate the relationship is in effect a break clause on cleared swaps. Some also argue that pension funds are amongst the most credit-worthy of derivative users, contributing less default risk to a CCP than other client types but bearing a seemingly disproportionate share of the clearing costs and the aggregated risk.

The cost argument is claimed by both sides, with those able to buy and hold swaps preferring not to incur the operational costs and margin involved with clearing, whilst proponents maintaining that a swap exposure only needs to be adjusted a few times during the holding period for clearing to be the cost-efficient option. Whilst some perceive that the costs of clearing are likely to rise, this is not yet being observed in practice, with clearing brokers apparently reluctant to go through the process of re-negotiating clearing agreements at this juncture.

The buy-side approach to clearing is more nuanced then might be expected. The same institution may favour clearing for a new client with trades to execute, and yet prefer to stick with bilateral non-cleared trades for another client that has a large back book of swaps.

Irrespective of which school of thought a given institution subscribes to, there is consensus that attention will need to be paid to current and potential future pricing divergence between bilateral and centrally cleared derivatives as this, rather than regulatory enforcement may be the ultimate driver.

Very few buy-side institutions view direct clearing as an appropriate solution, seeing default fund contributions and the obligation to bid on defaulted portfolios as highly problematic. They are paying attention to some of the new initiatives where a bank acts as sponsor and takes responsibility for some operational matters.

7 Regulatory Developments

The buy-side faces a large number of new rules and regulations, including the Uncleared Margin Rules (**UMR**), MiFID II and MiFIR. This coincides with clients also needing to implement new accounting standards such as IFRS 13.

There are very few buy-side clients that have notional exposures large enough to qualify for the earlier phases of UMR, with many buy-side clients not required to post initial margin until 2019/2020. As such there is little emphasis placed on the implementation of the ISDA Standard Initial Margin Model (**SIMM**) at present.

MiFID II is a more pressing matter with a deadline of January 2018, but the awareness of the implications for OTC derivatives trading is limited amongst buy-side front office representatives. Whilst the equity research aspect receives wide coverage, the need to evidence best execution for OTC derivative trading has received less publicity. There remains much uncertainty as to how best execution can be evidenced in practice. Those clearing the majority of their trades are more confident of being able to tackle the matter than those who prefer to trade in the bilateral market.

There remains some anticipation that deadlines will be extended, and some buy-side institutions are keen to differentiate between best execution merely in terms of inception pricing and a broader best execution policy that incorporates the full trade lifecycle, including collateral terms and the potential costs of unwinding or novating the position.

8 Market Developments

The UMR requirement may not come into effect until 2020 for many buy-side clients, but this does not mean that they are insulated from the consequences. Dealers will hedge the bilateral swap with an offsetting trade and post initial margin on this trade accordingly. The cost of financing this initial margin needs to be absorbed, but this is incurred on an incremental basis across a portfolio of swaps and the degree to which this will be passed on to buy-side clients through MVA remains far from clear.

In terms of market structure, buy-side institutions have observed marked shifts in dealer market share over recent years, with some attributing this to changes in banking capital requirements such as the Leverage Ratio. Whilst geographic and regulatory domicile are perceived as a driver by some, there also appears to be a cycle of dealers reaching capacity constraints and then seeking to step back for a period.

Despite most buy-side institutions being aware of interest rate swap futures, there is little indication that the buy-side see these as a viable alternative to the interest rate swaps market for anything other than niche applications. Liquidity remains insufficient for most LDI applications and there is little expectation that this will be changing imminently.

Buy-side opinions on the reform of Sterling Overnight Index Average (**SONIA**) are mixed. Some institutions believe that the Bank of England initiative was a missed opportunity to switch to a secured rate, and others are concerned that a migration to SONIA will be problematic if market liquidity were to fragment during the transition. Whilst there is widespread awareness of the basis between London Interbank Offered Rate (**LIBOR**) and SONIA, few see the risk as requiring immediate action and instead will monitor the situation.

There is much still in flux with regards to derivatives pricing practices. As they evolve further, a heightened awareness of the impact of sell-side practices on derivatives pricing for buy-side institutions will continue to be important.

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