The Changing Shape of Derivatives Markets

produced by

eurex + Bloomberg Media Group

The Changing Shape of Derivatives Markets

Disruption is shaping our industry at an unprecedented pace. Market structure is changing, as are client needs and regulatory requirements. We all have to ask the right questions and find innovative answers.

How should we react to changing investment behavior? How can we respond to changes on the buy side? How can we meet the strong demand for sustainable investments? And how can we shape the derivatives markets of the future?

Lots of open questions, and lots of challenges.

But you will find that many of these were addressed by the experts we were proud to welcome to the various panels at this year's Derivatives Forum in London.

The articles in this paper will show you that our industry is well prepared for upcoming challenges, and that many of these challenges have already been turned into promising opportunities.

Enjoy reading.

Thomas Book
CEO, Eurex

produced by

eurex + Bloomberg Media Group

Bloomberg Media Studios
Editor: Christian Sadler
Writer: Sam Shaw
Designer: Alessandro Caire

Contents

1

The Global Landscape—Shaping the Financial Markets of the Future

The near-collapse of the global financial system in 2008 led the European Union (EU) to initiate the European Market Infrastructure Regulation (EMIR). This 2012 directive meant that over-the-counter (OTC) derivative transactions had to be cleared using a central counterparty (CCP) to reduce risk exposure for both buy- and sell-side participants.

However, developing such an ambitious and necessary piece of regulation—building on Dodd-Frank's application to OTC derivatives, and ESMA's subsequent incarnations, EMIR Refit and EMIR 2.2—is "somewhat undermined if just one player dominates the market for OTC derivatives clearing," says Erik Müller, CEO of Eurex Clearing.

London is Goliath to the other Davids in terms of trading and clearing derivatives, with more than $450 trillion of swaps and futures processed via London Clearing House (LCH) every year, comprising more than 90% of total market activity, according to LCH.

According to Eurex, LCH used to clear the majority of the roughly 100 trillion euro-denominated ($110 trillion) interest rate swap market. As of November 2019, Eurex Clearing has gained almost a 15% market share in interest rate derivatives, measured by euro notional outstanding.

However, as London's future as a member of the EU remains unknown, planning needs to continue. And that planning needs to assume that no deal will be in place. Effectively, the whole market needs to prepare for a worst-case scenario.

In order to avoid a cliff-edge situation, the European Commission (EC) put measures in place to avoid any sudden shocks to the system in the cross-border derivatives market, comprising part of EMIR 2.2.

According to law firm Norton Rose, EU rules stipulate that EU-based banks can only use authorized clearing houses, adding that, "significantly, those in London would lose this status in the event of the U.K. exiting the EU … without a withdrawal deal."

In essence, under EMIR 2.2 proposals, euro-denominated clearing may only be permitted under the direct supervision of ESMA.

THE EMIR 2.2 TIMELINE

May 2019
ESMA publishes three consultation papers under EMIR 2.2 on tiering, comparable compliance and fees, inviting industry response.

June 17, 2019
EMIR Refit amendments take effect.

July 29, 2019
Deadline for all consultation responses to EMIR 2.2 proposals.

Q4 2019
ESMA to publish its final rules on EMIR 2.2, covering supervision of Third Country CCPs while promoting the convergence of EU CCPs.

2020 and beyond
Remaining provisions will be applied, including rules on transparency of CCP margin, rules on reporting mandatory delegation regime, and rules on CCP service provision and trade repositories.

Sources: Deloitte, ESMA

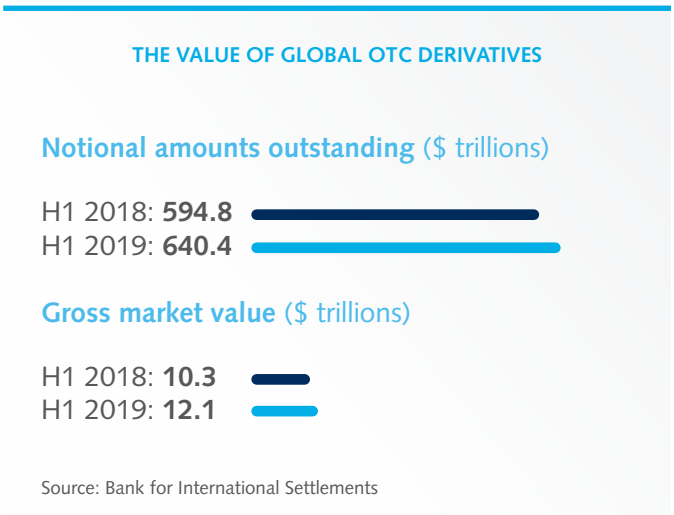
The associated risks are apparent. According to the Bank for International Settlements (BIS), cross-border derivative clearing will cost more than local clearing due to fragmentation, or the friction introduced in netting trades, reflected in higher required amounts of initial margins and default fund contributions, or higher capital charges for cross-border trades, for example.

While Eurex Clearing publicly stated its ambitions to grow its market share of clearing euro-denominated interest rate swaps (IRS) to 25% by 2020, the firm says those targets have been set irrespective of whichever way Brexit will conclude, and that the decision to bolster capacity in OTC IRS is about offering real choice to the end client. And yet, the Brexit effect is palpable.

Today's world feels like it is regressing from its globalization stage, with the rise of populist politics—from the rhetoric of President Trump, to Brexit, to unrest in Hong Kong. Müller adds: "There are many sore points that seem visible globally, which leads to governments putting in place safeguards so they can be sure that through their instruments—such as their central bank's monetary policies—they can have answers to crises that might develop."

Naysayers (or the incumbent) might suggest that in fragmenting the market it would reduce liquidity, with spreads widening, but a price comparison between euro-denominated interest rate swaps cleared by Eurex and LCH over four different tenors shows comparability between the two CCPs.

Market participants on both the sell and buy sides seem unanimously welcoming of an alternative liquidity pool. Against the backdrop of today's political and regulatory uncertainty, the need for stability and a robust trading framework are more essential than ever, and having flexibility of choice puts more control in the hands of customers, encouraging price transparency, competition and risk diversification—all vital developments across the market.



Regardless of whether the driving factor is Brexit or not, clearing, derivative settlement and insurance contracts are among many medium-term complications that need to be addressed.

Regulators on both sides of the pond are working out how foreign CCPs are supervised, and recent developments suggest that their thinking is reaching a degree of common ground.

Both groups of regulators are concerned over introducing substantial and systemic risks to their respective systems, but Jonathan Tyce, Bloomberg Intelligence Senior Analyst, European Banks, suggests that Europe and the U.K. could follow the U.S.'s regulatory lead—especially given the prospect of a no-deal Brexit.

But while potentially lengthy transitional arrangements will undoubtedly safeguard the financial system from immediate shocks and risks in the aftermath of a disorderly Brexit, pressures plaguing the sector seemingly reach farther and wider than the U.K./E.U. divorce. Technology, revenue pressures given low interest rates, and secular trends such as the rise of passive investment strategies will all play a role.

"Brexit, China-Hong Kong and China-U.S. relations, the unavoidable turn in the credit cycle and a global switch to fiscal stimuli, as policy toolkits run dry, are all equally key to where the financial services sector heads next," says Tyce. "One thing is assured: a bumpy ride, as asset bubbles deflate and social inequalities shape, and elect, governments."

All this geopolitical uncertainty exposes risk in two directions. Operational risk as financial market participants are forced to develop a different location strategy in order to comply with a new post-Brexit regulatory regime. Market risks stem from Brexit, trade tensions and next year's U.S. elections, causing large moves in interest rates, currencies and equities as we look more and more likely to enter into recession.

One thing is assured: a bumpy ride, as asset bubbles deflate and social inequalities shape, and elect, governments."

JONATHAN TYCE
SENIOR ANALYST, EUROPEAN BANKS, BLOOMBERG INTELLIGENCE

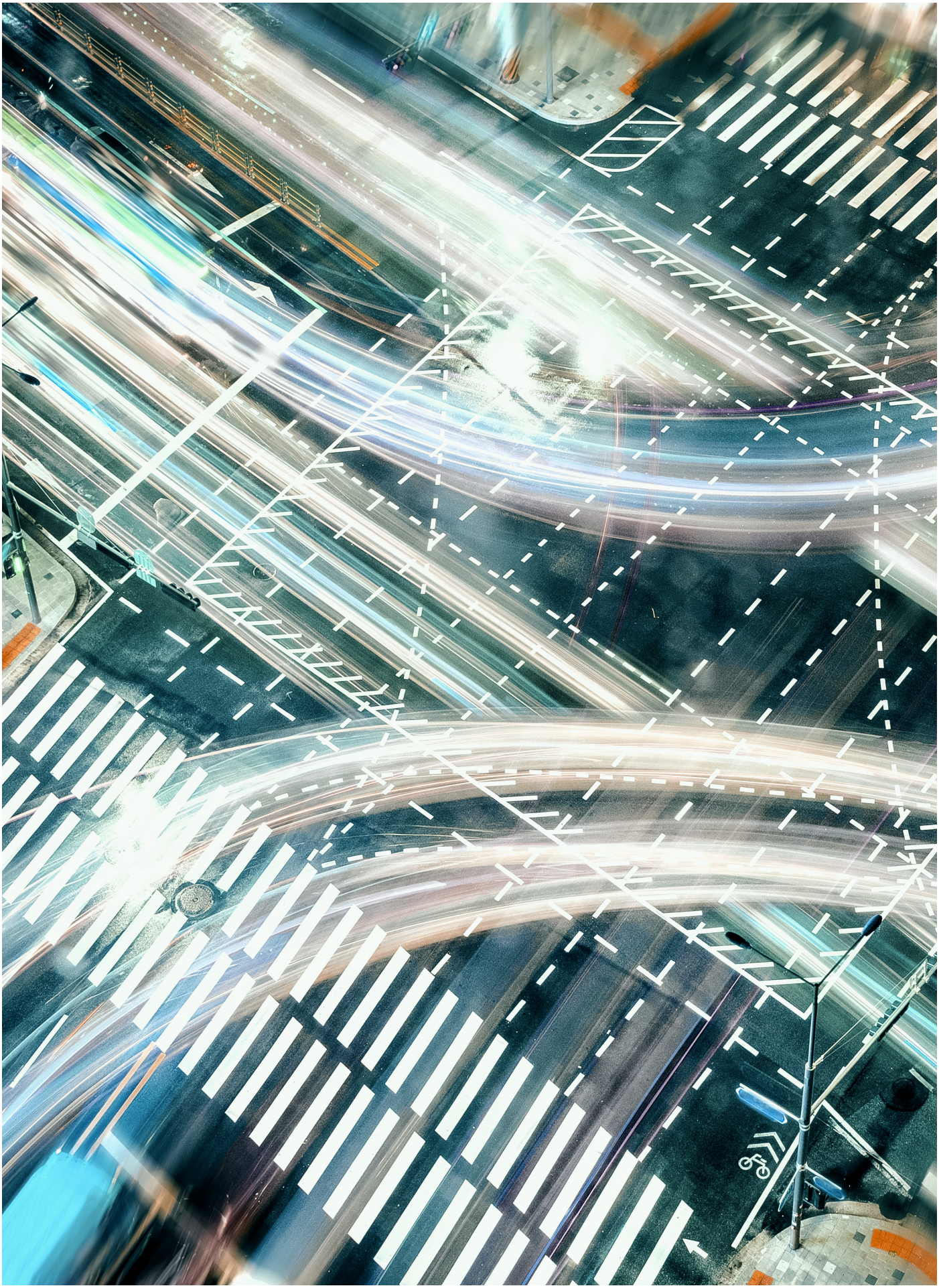
"From an end user perspective, this uncertainty has created many challenges, not just in terms of ensuring compliance with potential new regimes, but managing market access and liquidity," explains Rosa Fenwick, Portfolio Manager in the Liability Driven Investment team at BMO Global Asset Management.

Recognizing that most regulations are introduced with the best intentions – of increasing transparency and looking after investors – their long-term gains come with much short-term pain. Further, the U.S. elections will almost certainly lead to a new tax and regulatory environment if Democrats take the White House and Senate, whereas even if they just take the White House—if Elizabeth Warren or Bernie Sanders win the Presidency—a shift in regulatory enforcement would still be expected.

While other eurozone financial centers look to benefit from the fallout of Brexit, headcount reduction has, to date, been modest. Dublin looks set to benefit, given its language and cultural similarities to London, with Frankfurt, Paris, Zurich and Amsterdam also picking up share.

"This competition will persist for decades and go many rounds, depending on the political preferences of various national governments in the U.K. and EU and their approach to financial-sector regulation, corporate tax policy and immigration," adds John Normand, Head, Cross-Asset Fundamental Strategy at J.P. Morgan.

"Ten years from now, Europe will probably look like Asia, with one primary banking hub, London no smaller than it used to be, with several growing ones gaining market share over time but still do not manage to fully displace a leader with the advantage of incumbency."



2

Take a Walk on the Buy Side

One of the consequences of the global financial crisis (GFC) of 2008 has been heightened demand for centrally cleared derivatives.

Specifically, for end clients, the market now demands individual segregation of centrally cleared over-the-counter (OTC) interest rate swap (IRS) transactions to guarantee efficient porting of positions and any margin collateral posted, should a clearing broker ever default. As levels of trust have diminished across the financial sector, and the collapse of Lehman Brothers demonstrated that no party is "too big to fail," market participants on both sides have looked for a different tact.

Today, a decade after the GFC, the greater capital requirements on banks have somewhat alleviated the fears around counterparty risk, as around 90% of end clients' OTC IRS are estimated to be cleared through an individually segregated model, according to Frank Odendall, Head of Buy-Side Repo Solutions at Eurex.

As clearing eventually became mandatory under European Market Infrastructure Regulation (EMIR) in 2016—having been postponed multiple times—it also saw costs travel upwards. As sell-side costs increased, these were ultimately passed on to the buy side, with annual clearing fees of €500,000 not uncommon. Simultaneously, many banks exited the space due to high regulatory capital requirements associated with the provision of clearing services, leading to the concentration of IRS clearing among just a handful of brokers.

In this environment of high costs and clearing broker concentration, it became clear that the buy side needed to look at other options. Eurex launched ISA Direct three years ago, and it has taken until now for momentum to really start to build. In allowing buy-side clients direct membership to central counterparty (CCP) clearing, they become principal to the transaction, while a bank acting as the clearing agent takes over the legal responsibility on their behalf, enabling them to contribute to the mutualized default fund and participate in the default management. While the ISA Direct service was initially adopted by some smaller regional banks, traction on OTC interest rate swaps is finally picking up.

> "The benefit [of the cleared repo market] could be a better risk diversification within the cleared portfolio and a lower initial margin requirement."
>
> **JAN GRUNOW**
> HEAD OF INVESTMENT OPERATIONS, SWISS LIFE ASSET MANAGEMENT

In June, Eurex announced that Swiss Life Asset Management, a large-scale buy-side member, was the first to use its CCP ISA Direct service for OTC interest rate derivatives. The model is designed to reduce the client's financial and operational burden of clearing while offering a more robust model that improves resilience and security across the marketplace.

With Swiss Life Asset Management signed up for OTC IRS and pension fund provider PGGM for repo, are others likely to follow suit, or are the hurdles still too high for most?

Jan Grunow, Head of Investment Operations at Swiss Life Asset Management, believes the ISA Direct model is only really appropriate for established buy-side clients of a certain size.

"By becoming a direct client of Eurex Clearing, Swiss Life exposed itself directly to the processes that are normally taken care of by the clearing members, leading to more direct exposure to the CCP, but at the same time, a lack of safety net provided by the clearing broker. Only large and midsize buy-side members will currently be able to cope with the requirements to become an ISA Direct member of Eurex Clearing," he says.

Size restriction may be one factor holding back more widespread adoption, and general aversion to veering from the status quo may be another, while many industry commentators have expressed concerns following the NASDAQ Clearing member default (fig.1 see below) last September, almost 10 years to the day after Lehman Brothers collapsed.

FIG 1. TIMELINE: THE NASDAQ CLEARING DEFAULT

» On September 10, 2018, the Nordic and German power markets witnessed extreme volatility in the spread.

» Einar Aas, a Norwegian trader who was clearing his own trades, had bet Nordic and German electricity prices would converge, via a futures trade on the Norwegian exchange, NASDAQ Oslo ASA, which clears all trades with the Swedish CCP.

» When the two prices were pushed further apart, his position's value dropped sharply.

» When he failed to pay the margin call in full, he was declared in default the next morning.

» NASDAQ said the size of his positions outweighed any safeguards it had in place.

Sources: BIS, FT, NASDAQ

While there is a perception in the market that only large-scale players might be willing to take on their own collateral management, the rise of consolidation across the asset management space suggests that this might be a reality sooner rather than later.

For smaller players and smaller funds, the additional outlay required may not be worthwhile, and it may be more efficient for them to continue with their existing framework. But Odendall believes the operational difference is insignificant; only the legal implications are fundamentally different, which he foresees as the major investment required, once all internal stakeholders are convinced.

Swiss Life AM decided to clear its OTC IRS directly at the clearing house rather than using an intermediary, to bring its exposure in-house rather than have it sitting with a third party. With less dependence on clearing brokers, there is a lower risk of porting open trades should a clearing broker default. Grunow explains that the initial margin for Eurex Clearing remains in a pledged account at the triparty collateral manager SIX SIS, owned by the SIX Swiss Exchange. This substantially reduces counterparty and collateral transfer risk, as the initial margin (IM) stays in a Switzerland-based securities account pledged to Eurex Clearing, allowing Swiss Life AM to continue to consolidate the securities to the pool of covered assets, in line with Swiss regulation.

The most immediate benefit, he says, is cost reduction; the group's clearing costs are significantly lower as no clearing broker has to provide balance sheet capacity for its swaps.

Another consideration is finding a clearing agent that supports ISA Direct. In the case of Swiss Life AM, their partner is ABN AMRO, which can develop this revenue line with lower-risk exposure than full clearing membership.

Multiple challenges are at stake, with various product areas demonstrating their own idiosyncrasies, but Eurex's decisions regarding order of product rollout were driven by market demand.

The larger margin requirements of the OTC IRS market presented a pressure point; the strong directional trades commonly made by pension funds and big insurance companies building large positions over time meant that the margin requirement became very expensive in the traditional clearing model.

Comparable pressures exist in repo. The final implementation of uncleared margin rules (UMR) will require additional collateral management expertise and more reliable access to the repo markets for buy-side entities, as the differences between collateral requirements for uncleared and cleared derivatives all but disappear. Repo liquidity is best under the centrally cleared model.

PHASED MARGIN RULES

All financial firms and systemically important non-financial entities with more than €8 billion ($8.8 billion) in derivatives notional exposure must exchange variation margin (VM) and initial margin (IM) on their trades.

IM requirements phased in, according to levels of notional exposure, as follows:

- **Phase 5 September 2020, €8 billion**
- Phase 4 September 2019, €75 billion
- Phase 3 September 2018, €1.5 trillion
- Phase 2 September 2017, €2.25 trillion
- Phase 1 February 2017, €3 trillion

Source: International Swaps and Derivatives Association

While different drivers motivate the IRS and repo markets, opportunities exist across both, with the ISA Direct model allowing clients to access cleared OTC IRS and repo in an integrated fashion, therefore managing cash requirements from cleared derivatives in the most efficient manner. For example, one could remove cash transfer risk by using a single cash account for the settlement of repos and cash variation margin (VM) for cleared derivatives.

Europe's repo clearing market is surprisingly immature, with a much better market established in the U.S., with currently 1,700 buy-side entities clearing repo, according to Odendall.

Reports suggest repo clearing has been around for about 14 years in the U.S., yet only began raising its profile in the past couple of years, and it has only just started in Europe, according to Eurex.

The next stage of rollout might be in ETCs or in the FX market, which Grunow says would be of particular interest, as Swiss Life AM has already begun exploring the cleared repo market.

"The benefit could be a better risk diversification within the cleared portfolio and a lower initial margin requirement than under the bilateral clearing regime," he says.

The Evolving Role of Collateral

The role of collateral has evolved in recent years to become a crucial part of improving liquidity across financial markets.

Further, the new margin rules for OTC derivatives—intended to reduce counterparty risk by insisting market participants exchange collateral through initial margin (IM) and variation margin (VM) for uncleared OTC derivative transactions—give collateral a new function of mitigating systemic risk, arguably behaving almost like an asset class.
With the traditional clearing model, buy-side clients are limited in terms of what they can use as collateral for margin requirements, compared with a direct model, according to Eurex.

Philip Simons, Eurex's Global Head of Fixed Income Derivatives Sales, says that in addition to higher capital requirements for the banks, concentration risks across the market and challenges on the porting side—where clients move between clearers—one of the biggest challenges facing the buy side lies in collateral management across multiple parties. By adopting a direct model, some of that exposure is alleviated.

Direct clearing may introduce one less transfer risk and one less operational effort, but is that sufficient incentive to better engage the buy side? Previously, buy-side clients would have been on a credit support annex (CSA) and had no uncleared margin requirements, and borrowing was cheap.

"I do not think the market has yet provided an efficient solution for the buy side in terms of collateral, especially when it comes to enabling the efficient use of collateral across multiple requirements—multiple clearing brokers, multiple CCPs, and so on," says Simons. "If we can make that all simpler, more efficient, more automated, I foresee more of the buy side, even the pension funds, coming in voluntarily."

"If we can make that all simpler, more efficient, more automated, I foresee more of the buy side, even the pension funds, coming in voluntarily."

PHILIP SIMONS
GLOBAL HEAD OF FIXED INCOME DERIVATIVES SALES, EUREX

3

A deep dive into ESG investing

The rising appetite for environmental, social and governance (ESG) and sustainable investment strategies is showing no signs of abating.

Contributing factors include the high social consciousness of the millennial and Gen Z generations (those born in or after 1981)[1], the global financial crisis—which has put governance front and center to forge greater stability of the financial system—and the digital revolution.

As investor demand increases, regulation serves as a moderating force to raise the bar of asset owners, managers and those carrying out due diligence. According to MSCI, roughly 175 pieces of ESG regulation were issued in 2018, compared with just one regulation issued in 2000. However, the index provider estimates that as much as $32.6 trillion in assets under management (AUM) could be subject to pending regulations.

While the equities market in ESG is fairly well established and growing, the fixed income space has been slower to develop. Bondholders not having voting rights negates some degree of vested interest, and many bond issuers are not publicly listed, which makes scoring credit companies from an ESG perspective more complicated.

As companies and countries are being forced to raise their ESG game, the addition of listed ESG derivatives is yet another tool for investors seeking access.

NASDAQ's launch last year of its trio of exchange-listed and ESG-compliant index futures, pegged to the Stockholm, Copenhagen and Helsinki exchanges, was swiftly followed by Eurex's entry to the market this year with its ESG exclusion-based, low-carbon and climate impact-focused futures and exclusion-based options. With CME launching an S&P 500 ESG future in November, the trajectory is clear.

[ESG Derivatives] should enable us to manage the granularity of our client risk exposure more precisely while reducing trading costs."

OLIVIER RUDEZ
HEAD, FLEXIBLE AND ABSOLUTE RETURN PARIS,
BNP PARIBAS ASSET MANAGEMENT

As of September 2019, Eurex had already seen 362,774 contracts exchanged across its three futures, with open interest reaching €590 million.

"Normally, the initial entry into an ESG future happens at the roll period. What we hope is that on each successive roll, as the market gets more comfortable with the product, the open interest grows," says Zubin Ramdarshan, Head of Equity and Index Product Design at Eurex.

He sees demand coming from three main sectors, including portfolio managers looking to improve the efficiencies of managing inflows and outflows in order to remain fully invested without compromising their ESG exposure.

71% The number of institutional investors hoping to manage all their portfolios according to ESG principles by 2030.

Source: Allianz Global Investors, 2019

Olivier Rudez, Head, Flexible and Absolute Return Paris at BNP Paribas Asset Management, Multi-Asset and Quantitative Solutions, says having access to the wider toolkit complements his firm's own ESG, helping to reduce cash securities turnover or, for instance, tactically reducing equity market exposure, with the remaining invested for the long term.

"It should enable us to manage the granularity of our client risk exposure more precisely while reducing trading costs," he says.

The second area of demand for listed futures is expected to be from ETF market makers. Facilitating higher client inflows into related ESG-focused ETFs wil allow for better pricing of block trades and help recycle risk, increasing market activity.

Thirdly, there will be increased interest from the structured products sector. "Issuers are always looking to innovate in terms of index underlying, given the heavy focus on private banks and high-net-worth individuals in the structured products market, and they definitely see a lot of growth for structured products linked to ESG indices," says Ramdarshan.

Ramdarshan explains that for those banks issuing structured products, having listed derivative instruments that enable them to recycle risk is crucial for maintaining capacity to keep issuing new products.

"If they end up stuck in risk, and hitting their risk limits, they can't issue. By having both the futures and also the respective options on the STOXX® Europe 600 ESG-X, we open up the ability for structured product

issuers to hedge their risk books more accurately, therefore growing their assets in ESG strategies," he says.

On the buy side, clients tend to favor ESG for three main reasons: They think meeting such criteria will lead to long-term investment returns; they believe it will have a positive impact on their brand and reputation; or it will mitigate investment risk, according to BNP Paribas.

Lisa Beauvilain, Head of Sustainability and ESG at Impax Asset Management, says ESG analysis is definitely set to move into the mainstream, and suggests that about 85% of the value of S&P 500 companies is intangible and that ESG analysis can help investors better understand that 85%.

"We also see demand for impact measurement increasing; people want to know the impact of their investments and will look to produce net impact analysis for their portfolios.

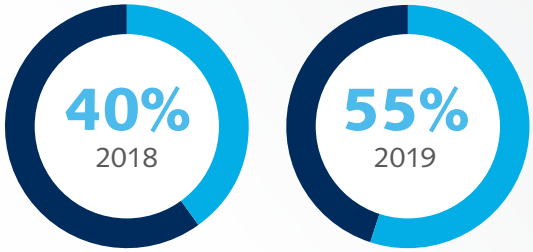
"Finally, climate risk, especially the physical climate risk and resilience of portfolios, is an area where you should expect to see greater focus," she adds.

The ESG theme is here to stay, although the pace of adoption among the broader financial industry is inconsistent. The sticking point seems to be reaching a consensus on standardized methodologies of ESG scoring, according to Eurex's Ramdarshan.

"Do I think all benchmarks will at some point incorporate ESG criteria? I can definitely see that being the future," he says. "But I think the real impact ESG can have is actually in the primary debt and equity markets.

"If you have a situation with [an energy-related company] and it literally costs them more money to raise capital in public markets [if they do not meet the ESG criteria of a benchmark], it might change behavior. And I think that is really where management starts to change strategies, when there is a real cost to the business," he says.

PENSION SCHEMES CONSIDERING ESG RISKS IN THEIR RETURNS



Source: Mercer, 2019

Climate risk, especially the physical climate risk and resilience of portfolios, is an area where you should expect to see greater focus."

LISA BEAUVILAIN
HEAD OF SUSTAINABILITY AND ESG, IMPAX ASSET MANAGEMENT

Overcoming ESG challenges

Global sustainable investment strategies have grown 34% since 2016, with total assets under management (AUM) standing at more than $30 trillion at the beginning of 2018, according to the Global Sustainable Investment Alliance.

In Europe, socially responsible investment (SRI) assets grew by 11% over that timeframe, but the segment's overall market shrank from 53% to 49% of total professionally managed money, which the Global Sustainable Investment Alliance (GSIA) says might be due to stricter standards and definitions.

Lack of standardization is often cited as a barrier to companies' engagement with the environmental, social and governance (ESG) segment, and many companies claim to not know where to begin.

In a recent study of nearly 900 boardroom executives, KPMG found that while general sentiment was positive, significant differences existed across countries and industries regarding ESG's strategic importance.

Levels of disclosure may be an issue. Of the 25,000 companies covered by Institutional Shareholder Services (ISS) ESG for their climate performance, only 3,100 submitted reports last year outlining their Scope 1 and 2 greenhouse gas emissions, for example. But indicators suggest levels of transparency are improving. Earlier this year, the International Organization of Securities Commissions (IOSCO) released a statement discussing the importance of including ESG matters when disclosing information that is material to investors' decisions.

Elsewhere, the rise of Big Data and accelerated use of artificial intelligence (AI) indicate that the market will learn to rely less on corporate disclosure and turn to alternative sources of information, which in itself casts a question over the future of the "G" element and how it is comprised.

Lack of common ground between different consensus ratings such as MSCI, ISS and Morningstar seems to result in difficulty gaining a firm grip on intelligence, and while various strategies have been around for years, many across the mainstream investor universe are still waiting on the sidelines.

According to a BNP Paribas survey in 2019, 66% of respondents cite data as the biggest barrier: issues exist around its availability, consistency and quality. Respondents say challenges remain in transforming data into meaningful insights. But as ESG activity matures, solutions to these data challenges will become more prevalent.

In less mature markets, liquidity may present a challenge, but Lisa Beauvilain, Head of Sustainability and ESG at Impax Asset Management, says more concerning is the scale of opportunities.

"Sustainable investment opportunities exist across many different asset classes with different liquidity characteristics. Perhaps a more pertinent question is one of scalability. There is no shortage of capital, but it can be difficult to find the best sustainable investment opportunities and companies."

Here, the role of market maker is essential. "Market makers provide constant liquidity, which is crucial for a robust trading ecosystem," says Rick van Leeuwen, Head of Institutional Trading at IMC Trading. "By providing constant buy and sell quotes, we can ensure that ESG investors will always have a reference market price and can always buy and sell in large or small quantities." This is especially crucial for new products, as there will not be any natural liquidity available," according to Eurex.

Beauvilain believes that while the terminology is still unsettled, the most important thing is to assess and understand the net impact of investments.

She adds: "ESG is an investment process and not an outcome. Clients are interested in ESG because they either think it leads to superior long-term returns or because they approach it from a value standpoint. ESG can be confused with intentionality, which is where greenwashing falls, because ESG does not necessarily result in a green outcome. Labeling is a response to this—for example, the Green Economy Mark launched by the London Stock Exchange in October."

4

Volatility Investment Strategies, are There Enough Risk Premia Left?

More than a decade since the nadir of the global financial crisis, we are no closer to a rising interest rate environment.

$17 trillion

Market value of negative-yielding fixed income assets.

Source: Bloomberg, 2019

If September's move by the Federal Reserve—cutting its base rate for the first time in 10 years—appears to be a contrary indicator. Yields remain benign, with the amount of negative-yielding fixed income assets at their highest-ever levels, according to Bloomberg. A 10-year bull run coupled with a rapidly rising technology sector have seen developed-market equities either overvalued or plagued with risk, forcing investors in search of returns to cast their eyes further afield.

Alternative asset classes and investment strategies are therefore more relevant than ever before—and no longer solely as a diversification play—as correlations between traditional asset classes tighten. Enter the role of volatility.

According to data provider Preqin, last year, 42% of hedge fund investors believed stock market volatility would be the biggest threat to returns in 2019, and the indiscriminate sell-off witnessed in Q4 2018 probably validated that belief.

For the next volatile phase of the market cycle, derivative strategies that capture return premiums are likely to face greater demand, to compensate for the risk of losses during sharp increases in market volatility.

The volatility risk premium exists because implied volatility is typically higher than realized volatility, and therefore investors averse to the common swings in equity markets will often pay a premium for the insurance effect of placing options on that volatility.

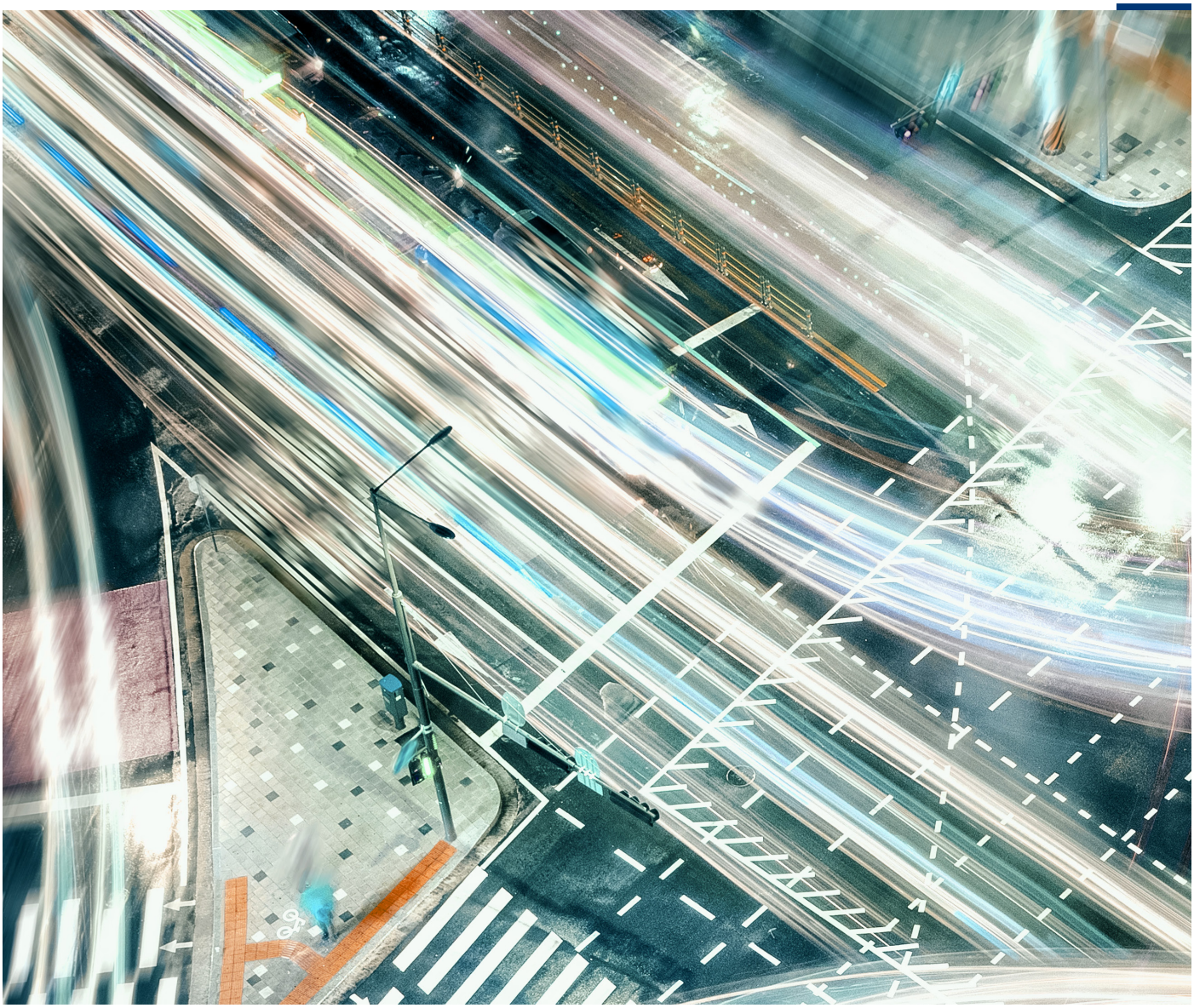
For instance, many large pension funds cannot expose their members to bouts of equity market volatility, so they buy put options on their equities to help meet regulatory requirements or debt requirements, and they often carry a risk premium. With a volatility instrument—a swap, future, option or variance swap—that premium gets exploited and that "insurance" is effectively sold back into the market.

Arguably, if volatility is meeting twin objectives—dampening downside in times of market stress and generating additional alpha when traditional asset classes look challenged or expensive—it might lead to crowding.

"Given the fact all risk premia are already suppressed, we are seeing some crowding [in volatility derivatives], depending on what trade we are looking at specifically," says Andreas Schmidt, Equity Derivatives Specialist at Bloomberg. "Clearly, the market has increasingly targeted the less classical investment strategies."

While volatility will always offer a premium, its magnitude will depend on the particular market circumstances and number of participants, placing greater importance on the underlying index against which the trade is pegged.

For example, trading volatility of the S&P 500 or the EURO STOXX® 50 is unlikely to introduce issues around liquidity. Huge demand by large institutional clients seeking equity protection on those indexes drives up their risk premia through supply and demand dynamics, whereas for volatility swaps on an emerging-market index, for example, where demand is lower, if that trade gets crowded it would have a more significant impact on prices.



One of the clearest observations in the past 10 years is the rapid pace at which market participants need to act.

As Dr. Bernhard Brunner, Partner at finccam, says, "Trading volatility has changed over the past years, as the characteristics of volatility have changed since the financial crisis."

Moreover, today's wealth of data, the incessant flood of information and increased use of algorithmic strategies have made the trading landscape very different.

"For example, lower volatility regimes have become more important, and you should adopt your volatility trading strategies accordingly," says Brunner. "Moreover, you have to monitor your positions much more intensively than before 2008."

He explains how with volatility events, typically the risk premium is even higher after the event's spike upwards. Not only is the premium more attractive, execution needs to happen faster than in previous years if participants are to access the opportunity.

42% The number of hedge fund investors who believe stock market volatility would be the biggest threat to returns in 2019.

Source: Preqin, 2019

While the market has become more fast-paced and the associated risk premium more attractive, greater opportunities may exist that can make things more competitive. For example, if a large pension fund is placing a hedge, it might shift volatilities to one side because of its sheer volume, while that risk is subsequently digested.

"That clearly opens up an opportunity for another participant. They spot the higher-risk premium available, encouraging them to engage with the trade from the opposite side," says Schmidt. "But on the other hand, if something happens and you need to get out, you also need to be quick before the position explodes on you."

A common investor fear is that in a serious downturn, asset class diversification goes out the window if everything falls together. In such troubled times, it pays to be nimble—deleveraging, exiting positions, unwinding trades—and all trading activity needs to happen quickly.

Schmidt says that exchanges have tried to address the need for fast exits by creating instruments that are centrally cleared versions of OTC products, including variance swaps or dividend derivatives. Some of these products, such as dividend futures, have become market standard. "Others, however, seem to be struggling to convince market players to move from well-established simple OTC workflows to a centrally cleared exchange product," he adds.

One of the clear benefits of including volatility derivatives in an overall investment strategy can be found in the tail risk. For a multitude of reasons, market risks are louder and clearer than they were 10 years ago, and possibly ever. One consequence is shorter periods of volatility (with the exception of the prolonged volatile period between 2000 and 2003), with the swings more rapid.

"Before 2008, we saw scenarios of market volatility having increased sharply, but then very slowly returning to the long-term average," says Brunner. "For example, between 2000 and 2003, we saw regimes of high volatility, which persisted for more than one year. Nowadays, that has changed."

He explained how even larger spikes in the market sometimes take a few days to return to their former level. Whether incited by President Trump throwing out political landmines via Twitter, the latest in the Brexit saga or heightened tensions in Turkey, negative news flow and events often lead to drawdowns. But with volatility, history demonstrates that immediately after such events lies the maximum risk premiums—potentially up to two or three times as much as before the event, according to Brunner, with faster recovery versus equities (and other asset classes). "That is a very attractive feature for many investors."

Clearly, the market has increasingly targeted the less classical investment strategies."

ANDREAS SCHMIDT
EQUITY DERIVATIVES SPECIALIST, BLOOMBERG

Pure Alpha or Alternative Beta?

A relatively recent development in the world of volatility derivative trading is increased use of dividends, correlation and volatility as sources of alternative beta.

For instance, trading dividend futures and options can meet the hedging requirements of many retail structured products, which require a term structure for long-dated dividends.

Andreas Schmidt, Equity Derivatives Specialist at Bloomberg, explains: "Retail structured product clients often effectively 'forego' a forward-looking implied dividend. The further out you look, the higher the risk premium the issuers charge."

He says that kind of strategy is being effectively mirrored in the many listed dividend futures and options on offer, with specialists now exploring whether additional premiums can be extracted.

Some examples might be the difference between implied and realized volatility on a particular index; looking for spreads between the S&P and the EURO STOXX® indexes; or perhaps bringing in a geographical element and exploring levels of liquidity in Asian or emerging markets.

Dr. Bernhard Brunner, Partner at finccam, points out the shift by many large institutional investors, such as pension funds, to increasingly include alternative asset classes in their strategic asset allocation.

We are now seeing [alternative] strategies being used more as the core building blocks of an investment portfolio."

DR. BERNHARD BRUNNER
PARTNER, finccam

"This is a bit unusual, because to date you would really only see traditional asset classes in strategic asset allocation. We are now seeing effectively an absolute return market that includes these kinds of [alternative] strategies being used more as the core building blocks of an investment portfolio."

The big questions that remain, he says, are around the diversification benefits of adding volatility, correlation and dividend exposure to a portfolio, given their positive correlations.

5

Frontiers Between On- and Off-Book Markets

As electronification gains pace, transparency and the need for rigorous compliance remain key considerations, all while market participants strive to compete.

As the central limit order book (CLOB) and off-book—whether through the traditional call-around market or in the request-for-quote (RFQ) space—increasingly vie for business, the market structure looks ripe for disruption.

As several exchanges develop solutions to open up the CLOB to more flow, seemingly supported by market makers and the sell side, where will the new frontiers between on- and off-book trade sit? And who will be responsible for setting these new frontiers, as more participants court end clients for their business?

The traditional telephone-based market structure has been based on a relationship between the sell side—the banks and the market makers—and the interdealer brokers (IDBs) arranging the trades. The buy side has hitherto been indirectly represented via the bank.

"But in recent years, all of these stones have been moving," says Eurex executive board member Randolf Roth.

The rise of electronic trading platforms has propelled the market, as more players are trying to establish direct relationships with the buy side. Enabling them to strike a balance between price discovery and signaling risk is a delicate task.

Eric Böss, Global Head of Trading at Allianz Global Investors, sees pros and cons to the shifting sands. "My counterparts have become more heterogeneous as a group, still comprising banks but also including ELPs [electronic liquidity providers] and, in some cases, peers—though this is not that big in derivatives, yet."

FROM **50%** > TO **70%**

Eurex has ambitions to grow the boundaries of the central limit order book from 50% of volume to 70%.

While a more diverse set of counterparts is generally a positive, on the flip side, the situation for the off-book market has not moved on to the same degree. For large risk transfer trades taken off-book, the buy side is still fairly limited in terms of counterparts, forcing a reluctant showing of hand.

The more participants meeting in a marketplace, the less fragile it becomes. Pre-Lehman Brothers, the market was largely divided into banks and clients, and that binary state was arguably a contributing factor to the system's collapse.

Today, we see a more complex mix—from a growing number of hedge fund-like strategies, ELPs and banks, to a buy side that not only includes asset managers, insurance companies and pension funds but also covers sovereign wealth funds, family offices and private banks—all opening up plenty of arbitrage strategies between asset classes.

"The fact that there are more players out there potentially does not necessarily help the banks," Böss says. "But for me, I look for a stable, diversified and heterogeneous market. It's like an ecosystem; the more complex an ecosystem, the more stable it is."

While sentiment seems unanimous regarding the benefits of a fuller, more liquid and transparent CLOB, it might be easier said than done.

Internalizing flow is riskier, but it also provides a much bigger margin."

RANDOLF ROTH
EXECUTIVE BOARD MEMBER, EUREX

"It is a difficult task because you are trying to optimize several inputs," says Böss. "What's the optimal block trade size that pushes as much volume as possible on the CLOB without keeping it from trading at all?"

The industry is divided, as some banks acknowledge that the world is headed toward greater transparency, and they anticipate tighter regulation with a shift toward increased block sizes as a way for the sell side to differentiate in the market.

"You could argue we are trying to push the boundary of the order book further out through larger block sizes and a bigger share going in the order book," says Roth. "On the other hand, the order book always has been very efficient. It has straight-through processing, compared with the call-around market that is much more cumbersome."

Roth argues that with the rise of electronification, the off-book will become more streamlined, potentially eating away at the efficiency advantage of the CLOB. "As the off-book market becomes more electronic, it becomes more efficient, and therefore there may be less of a need to go on the order book," he says.

Given the order book's dominance by algorithms, many end clients are turning to it as a price discovery mechanism to then benchmark their trades in the off-book market.

While Eurex has ambitions to grow the boundaries of the CLOB from 50% of volume to 70%, it looks like the CLOB and request-for-quote models will coexist for the time being; both have a role to play. While keeping trade off-book may not be as accountable to the rules and rigor of an exchange, with that comes a degree of flexibility and freedom in pricing, and in setting limits that best serve the needs of both participants. On the flip side, off-book can be seen as higher risk in terms of counterparty default, with fewer restrictions in place.

Technology compatibility is one of the primary hurdles for market makers, determining whether or not they can compete effectively on the CLOB; those that cannot tend to focus on the call-around market. The second challenge, especially given the industry's drive toward greater transparency, is tackling the volume of equity products currently taken off-book and internalized—when a proprietary trading desk faces the client directly and only brings the concluded trade into the clearinghouse.

Roth explains how pressure on the banks' commission structures means the appetite to internalize trade is still strong. "Internalizing flow is riskier, but it also provides a much bigger margin," he says.

What will it take for the market to shift from call-around to the CLOB—will it be regulatory forces or natural market movement?

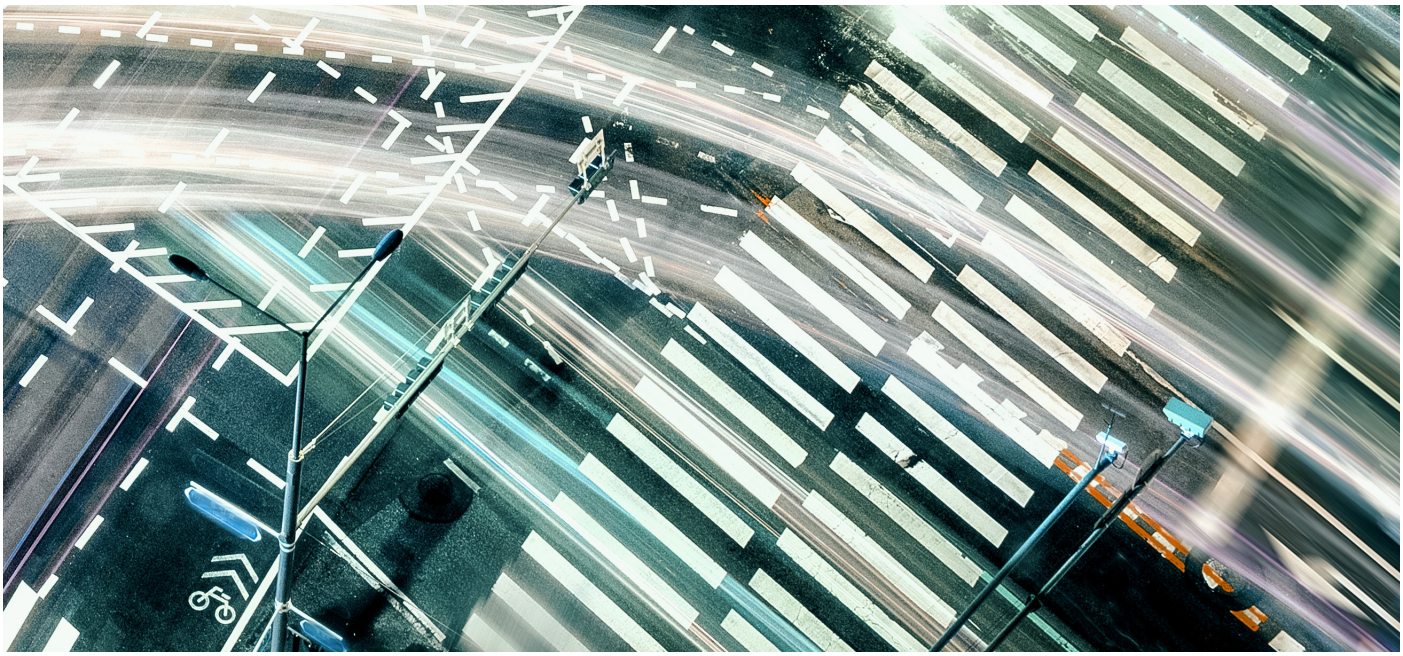
While a degree of reticence will ultimately come from the buy side, due to not wanting to reveal their price, more often it will come down to liquidity. If even some of the more traded segments of the OTC derivative market are simply not deep enough to honor larger trades, more esoteric products have no chance of moving over to the book—not yet.

"People talk about liquidity as if it was one number, but the reality is that liquidity for a retail investor and for a wholesale investor like us is a very different animal," adds Böss.

As bid/offer spreads in the more liquid markets have tightened, he says order books have become thinner, so while smaller investors can trade at tighter spreads, for a player like AGI, there is the issue of making a larger market impact.

As the boundaries blur between each market participant's role, new frontiers are inevitable, but it remains to be seen what this will look like and how long the evolution will be. Will the greater transparency of the order book be enough to outweigh its premium pricing and lack of flexibility?

> "People talk about liquidity as if it was one number. The reality is that liquidity for a retail investor and for a wholesale investor is a very different animal."
>
> **ERIC BÖSS**
> GLOBAL HEAD OF TRADING, ALLIANZ GLOBAL INVESTORS



The Changing OTC Derivatives Market

Before 2008, the over-the-counter (OTC) derivatives market was renowned for its opacity. Typically traded over the phone and largely unregulated, it became apparent at the start of the global financial crisis that change was needed.

In recognition of the characteristics of the OTC derivative market and their role in the collapse of the global financial system, the Pittsburgh G20 Summit on Financial Markets and the World Economy in 2009 crystallized the intention for reform agreed upon by leaders across the developed world. Mandating the reporting of derivative contracts laid out the commitment to improve the transparency and resilience of the market.

In the EU, this intention was codified in 2014 into European Market Infrastructure Regulation (EMIR) Article 9, which states: "Counterparties and CCPs shall ensure that the details of any derivative contract they have concluded and of any modification or termination of the contract are reported to a trade repository."

While the overall market has grown 20% since then, option volume actually declined while futures volume grew by more than one-third, according to Eurex.

The past 10 years has witnessed the rise of non-bank market makers—predominantly electronic liquidity providers (ELPs), the former high-frequency traders (HFTs)—which can be attributed to two major factors, the first being regulation. As a result of the Dodd-Frank Act and generally higher capital requirements, the cost of market making has become more expensive. The second factor—arguably in response to tighter regulation—is that third-party firms are running leaner technology, made cheaper because they are regulated in a less onerous way than the banks.

"They have harnessed that advantage, which regulators put in their lap," says Eric Böss, Global Head of Trading at Allianz Global Investors.

As technology advances to improve speed and efficiency as well as transparency, the industry continues to debate the roles of off-book trade execution and the traditional request-for-quote (RFQ) model. Both allow participants to select their approach depending on instrument type, size of trade, particular counterparty and prevailing market conditions.

The RFQ model remains relevant; it adapts pricing that maps to individual trading positions of a selected group of trusted counterparties, but arguably forces the end client to reveal their identity, as well as the size and position of their trade.

The CLOB is broadly understood to have opened access between the order originator and the market maker, improving price discovery potential while allowing the originator to retain anonymity.

In mainstream equity index markets, large orders can be sliced into smaller-volume orders, potentially on different exchanges, to aid liquidity while shielding the origin of the order. In the derivatives market, the tendency toward a single exchange per product means that particularly large orders have no alternative but to go off-book. To address this, Eurex developed their Eurex EnLight platform.

Since MiFID II "best execution" rules came into effect, people are now looking at this issue much more closely than they have historically.

The View from London

Eurex hosted its Derivatives Forum at Bloomberg's impressive central London offices in November.

The event brought together nearly 250 participants from across the buy and sell sides, exchanges, traders, technology providers, consultants and analysts to network and learn, while engaging in thought-provoking debate.

While Brexit, trade wars, geopolitical unrest and market volatility have been dominating the broader newsflow, the world still turns; business—while challenging—still needs to thrive and it is important to look past the headwinds. Guests were reminded of three overarching themes affecting all sides of derivatives markets: changes in investor behavior; the regulatory shift toward central clearing; and electronification.

Alexander Jacobs, Global Head of OTC Derivatives, ABN Amro Clearing, said it was refreshing to see that the debate was no longer simply, "to clear or not to clear."He described the discussions about how the sector approaches clearing in the best way a "game-changer".

Events like this allow me to share ideas with people from different sides of the investment space."

PAUL FLOOD
PORTFOLIO MANAGER, NEWTON INVESTMENT MANAGEMENT

Education was also high on the agenda. "I think there are still a lot of people in the audience from the buy side who are not fully aware of what clearing is about," said Jacobs. "They are cautious of clearing; they think it is costly or complicated and are biased. I believe these kinds of events can 'break open' that way of thinking."

The sector is seeing opportunities from all sides: the rise of passive investments and ETFs; the exponential growth of sustainable investing and related strategies; and the changing shape and speed of trading as technology systems are overhauled.

Environmental, social and governance (ESG) was front and center as a theme of the day. Speakers from all sides shared their experiences of the extensive demand from clients for better research, data, investment opportunities and ideas, all embedded into ESG investing.

Gail Counihan, Fixed Income ESG Analyst at Franklin Templeton, said she was pleased to be sitting on a panel alongside people who take a different stance, exploring materiality from the perspective of different investors. "There was a nice diversity to our panel; we take, quite strictly, a risk point of view, whereas someone else on our panel was coming from a values-led position. I think it's always interesting to contrast views and investment processes in that way."

The other dominant theme of the day—and Eurex is likely not alone in sharing this—was uncertainty.

Whether the forthcoming U.K. or U.S. elections, worries about China, the continually changing regulatory regime or the departure of IBOR, so many unknowns remain. It is a testament to the flexible and solutions-led nature of the industry that is able to navigate such shifting sands, while embracing new market structures and still driving their business forward in a compliant manner.

It's about getting the perspective on the marketplace from players outside of our own environment. These events present an opportunity to hear directly from the end users."

CONOR MCCANN
EUROPEAN HEAD OF SALES, SUSQUEHANNA