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Derivatives Forum

Introduction

On March 22 and 23, the European derivatives industry came together for the 5th Derivatives Forum in Frankfurt – the entire community made this year's conference greater than ever.

This year's Forum saw the biggest attendance to date, with over 940 on-site attendees and 500 online viewers interacting with each other, listening to opinions and getting insights of more than 110 speakers. We are particularly thankful to our sponsors, supporters and all attendees that contributed to the success of the Derivatives Forum Frankfurt and made it "the central derivatives meeting platform to be" in Europe.

We are living in extraordinary times; a lot has happened since we last met. We have seen Russian aggression leading to a devastating and deeply shocking war with unbelievable human tragedies in Europe. Furthermore, we witness a worldwide pandemic slowing down, high inflation, energy crisis, and subsequently capital markets under severe stress. Hence, we had a lot to discuss:

Our Capital Markets and our whole industry have been shaken. Just days before the Forum, Credit Suisse, a leading European bank with a history of more than 160 years, was forced to merge with UBS. Asides from the challenges in the banking sector, the cyberattack on a key technology supplier has raised questions around exposure to the risk of failure. Resilience is more important than ever – especially when looking at cyber security.

Thinking about cyber security and innovation, our new strategic partnership with Google Cloud was a topic to be discussed intensively as an overall industry matter. The partnership offers huge opportunities for us at Eurex and our clients. Amongst others, we looked at the industries' offerings and how these can be enhanced by using Cloud, with digital assets and tokenization being a major area in which we can jointly develop products and services.

Eurex is one of the world's leading derivatives exchanges and clearing houses. As the architects of trusted markets, we respond to clients' needs and to market trends – that is how we will continue to lead through innovation.

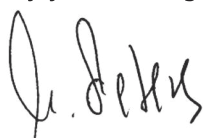
This report sets out how the industry is responding to the recent crisis and developments, but also how it has adapted to the new era of volatility driven by global macro events. It will increasingly focus on regulatory and operational resilience as well as on the significant rise in the importance of capital and operational efficiency.

In line with the Derivatives Forum's key themes, this report features five streams: Markets & Regulation, Derivatives & Portfolio Management, Liquidity & Collateral Management, Technology & Digital Assets, and Sustainability & Carbon.

All five themes represent the challenges that the industry is facing but simultaneously solutions and opportunities on how we can foster and build more sustainable, liquid, regulated and trusted markets for the future.

Serving a global community, we are equally committed to Frankfurt as an important financial hub – I thus look forward to welcoming you back to Frankfurt for the 6th edition of the Derivatives Forum on February 28 and 29, 2024.

Enjoy discovering!



Michael Peters, CEO, Eurex

Markets and regulation

1

In 2022 and 2023, markets have undergone their biggest shift in a decade, as inflation around the world forced central banks to pivot to rate hiking and quantitative tightening. Combined with a tense and uncertain geopolitical landscape, this has created the most sustained wave of volatility across markets since the great financial crisis.

Inflation is the underlying driver of this realignment, and predicting it is fundamental to the challenges facing traders and investors. As the Eurex Derivatives Forum began, market participants were taken aback by a surprisingly high UK inflation print, which contradicted data earlier in the year indicating disinflation.

The dawning realization is that macroeconomic and market conditions are diverging dramatically from previous decades. As such, the methods and models that officials and market participants use to chart a future course for inflation are being questioned.

These conditions have naturally seen an increased focus on CCP risk management, as clearing houses pay keen attention to margin methodology and default risk. However, this heightened risk environment is also driven by non-default risks, with recent high-profile hacks putting the spotlight on cyber security.

Secular economic changes may be causing disruption in markets, but they are also creating opportunities. As data collection methods improve and demand for increasingly refined ETFs grows, the popularity of megatrends and the thematic indices that capture them is on the rise.

All of these themes are addressed in this section. First, it explores how the resurgence of inflation has affected markets so far and where this trend will go next. Subsequently, it addresses the rise of thematic indices and their implications for listed derivatives markets, CCP risk management and the current challenges it faces.

Inflation and the macro environment

After starting the year with a brief burst of optimism, the outlook for global inflation is becoming more fragmented and harder to predict in the entwining macro environment.

Markets began 2023 on an upbeat tone, with many traders and investors positioning for the early disinflationary trends. But recent data prints and the fragile nature of geopolitics bring reminders of the uncertainty that dominated conditions last year.

As the Derivatives Forum in Frankfurt was underway, the UK posted surprisingly high levels of consumer price inflation – with its annual rate rising to 10.4%. In the same week, Chinese General Secretary Xi Jinping's visit to Russia to meet President Vladimir Putin reminded market participants of shifting global alliances.

Such is the range of threats to political and economic stability that few believe inflation, or volatility, will prove easy trends to tame.

"It is becoming much harder to predict the economic impact of monetary policy," says Fabrizio Campelli, Member of the Management Board and Head of the Corporate Bank and Investment Bank, Deutsche Bank."

"Time lags have lengthened, rapid hiking is not yet having its effect, and that difficulty in calibrating how far to go before things get troublesome will continue to be a dominant factor."

> **"It is becoming much harder to predict the economic impact of monetary policy.**
>
> Fabrizio Campelli
> Member of the Management Board and Head of the Corporate Bank and Investment Bank, Deutsche Bank

On the continent, monetary tightening will likely accompany more austere fiscal policy, as governments scale back the spending programs they unleashed during the Covid-19 pandemic.

"Overall, in a time where central banks all over the world are tightening monetary policy, it would be counterproductive to the goal of fighting inflation decisively if governments loosened their fiscal policies," says Florian Toncar, Parliamentary State Secretary, Federal Ministry of Finance Germany.

The challenge of data

The economic and political ramifications of this level of uncertainty are potentially vast. With so much at stake, the current inability of any single institution or profession to create a reliable model for predicting inflation is a growing concern among market participants.

Chief among the challenges facing market participants and central bankers has been collating and harnessing data to predict the path of inflation. The long period of low inflation that defined the decades running up to this moment and the many factors affecting current inflation have made predicting a way forward extremely challenging.

"We live in a world that nobody has experienced for 40 years," says Martin Lück, investment strategist at Blackrock.

"We live in a world shaped by supply shortages, and this is what is driving inflation. If you're using models, you're looking at 40 years of data that don't fit the current situation. That's why all the models people produce will likely produce wrong results."

The market environment of low volatility, low inflation, and low-interest rates is now firmly a thing of the past, and central banks are still coming to terms with how to direct markets. Rate rises and quantitative tightening may have been the most dramatic changes in the policy toolkit. But the macroeconomic backdrop has upended other features of the old regime, like forward guidance.

“These are extraordinary times. Take the measure of economic policy uncertainty in Europe for example, that is at historically high levels.

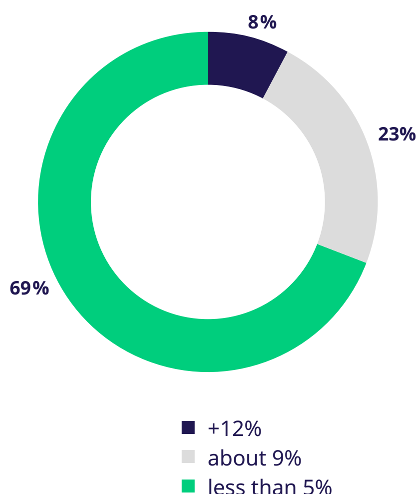
Fritzi Köhler-Geib
Chief Economist, KfW

“Efficient risk and collateral management will be key in this new cycle. That is exactly our value proposition as a market infrastructure provider – netting down risks and creating efficiencies along the euro yield curve.

Thomas Book
Member of the Executive Board, Deutsche Börse

“These are extraordinary times,” says Fritzi Köhler-Geib, Chief Economist at KfW. “Take the measure of economic policy uncertainty in Europe for example, that is at historically high levels.” Combined with the shocks we have seen, such as the energy crisis, and the pandemic before, this has led to an environment in which forecasts diverge much more than under other circumstances.

Where do you think eurozone inflation will be in two years' time?



“A very relevant step is to be aware of that uncertainty. I think the ECB and the Fed are very strongly moving in that direction, saying that a robust strategy is needed, as is making decisions that are more data dependent and revisited much more frequently.”

Capital markets implications

These underlying factors have begun to seep into capital markets as the rules and conditions that govern asset allocations and positions shift.

“After unprecedented years with abundant liquidity and central banks pushing stimulus into the markets, we are now witnessing signs of the headache coming afterward,” says Thomas Book, member of the Executive Board at Deutsche Börse.

“Efficient risk and collateral management will be key in this new cycle. That is exactly our value proposition as a market infrastructure provider – netting down risks and creating efficiencies along the euro yield curve.”

“We are fully focused on providing our clients with superior risk management services in this new environment now that collateral has a price tag

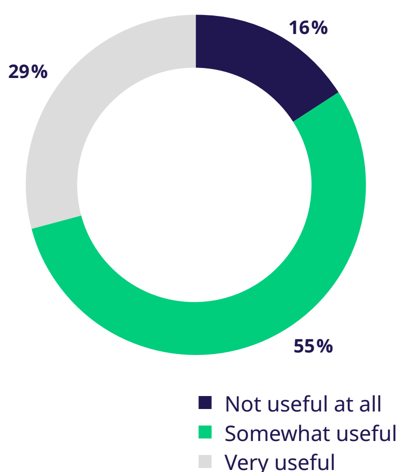
again and the balance sheet is scarce. We believe that our core proposition is unique and has a lot of value in this new environment – offering futures, swaps, and repo within one netting and risk framework."

Rising rates have breathed life into fixed income as an asset class despite the headwinds. Attracted by rising rates, asset allocators have begun showing an increasing interest in cash and derivatives rates markets.

"We are seeing asset managers shifting their strategies and asset allocations from illiquid alternative investments that gave them slightly positive returns when everything else was negative," says Thilo Rossberg, Head of Fixed Income, Currency and Commodity Markets at LBBW. "Now, they are happy to switch over to good old, fixed-income investments."

"We also hear questions last asked many years ago around exotic rate structures, a market that had dried up in recent years. Now people are asking questions about steepeners and constant maturity swaps, the kinds of products that remind me of the market ten years ago."

How useful are interest-rate and inflation-related derivatives in providing some predictive context for inflation?

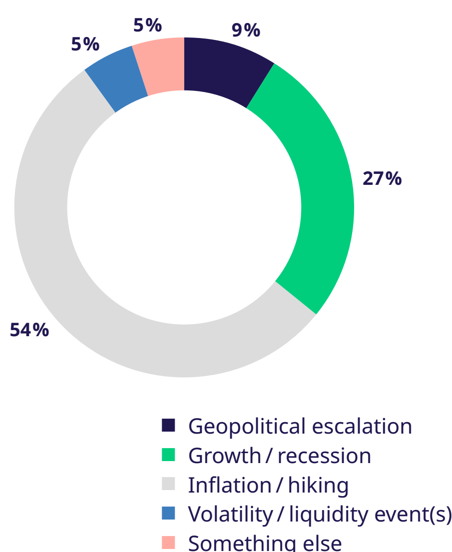


- Not useful at all
- Somewhat useful
- Very useful

"For inflation derivatives, we have even seen some institutional investors that have no inflation liabilities whatsoever talking about and actually putting on smaller inflation-linked deals. Sometimes the motivation for that has not been balance sheet hedging but just hedging against the risk of rising operational costs."

"These are lively markets, and I am very bullish about conditions in 2023," says Thilo Rossberg, Head of Fixed Income, Currency and Commodity Markets, LBBW.

What will drive markets this year?



- Geopolitical escalation
- Growth / recession
- Inflation / hiking
- Volatility / liquidity event(s)
- Something else

Listed derivatives move to adapt as megatrends accelerate

The rise of thematic indices and increasing appetite for allocating capital to megatrends have boosted flows to this nascent investing style. These developments have prompted some market participants to hail a new era in asset management, with the diversity of indices rapidly growing and ETF creation booming.

Thematic investing has supercharged the ETF industry, with huge asset growth under management during the last five years. Investors have become increasingly interested in capturing the upside from megatrends, the broad, powerful, and transformative forces that majorly impact countries, businesses and societies worldwide.

These include trends such as the proliferation of internet-enabled devices, which boosted connectivity and productivity. The most prominent is climate change, which has elevated the need for a more sophisticated range of tradeable products.

The breadth of thematic trends is wide-ranging. Investors can allocate to macro strategies that create exposure to the effects of demographic change. They can also take positions on more niche topics, such as pet care.

The pace of creation has been rapid, with a large amount of diversification in the space. That has made thematic index creation a highly customizable market. This trend favors ETF creation but presents complications for the standardization needed to grow listed derivatives around the market.

"Listed derivatives on thematic trends will be a long and winding road," says Randolf Roth, executive board member at Eurex. "Not every megatrend will have its own future. The challenge is that megatrends are very diverse compared to large-cap equity indices, where liquidity tends to concentrate in one S&P 500, one EURO STOXX 50®, and one FTSE 100."

"With thematic indices, the trends are more global, so we don't have to worry about creating European, US and UK-specific indices. But there are still so many indices and even within themes, index construction is very heterogeneous."

Customization is only set to accelerate in the near term. Index creators are working hard to mine an increasingly diverse number of data sources that can create more accurate exposure to megatrends. Many of these methods are new and innovative, which is set to lead to a variety of different data sets and, by turn, indices.

"The approaches used to construct thematic strategies are becoming ever more diversified in a bid to provide greater differentiation and to better capture the full opportunity set," says Axel Lomholt, Senior Managing Director and Chief Product Officer at Qontigo.

"For instance, natural language processing is being leveraged on unstructured data such as news, filing and transcripts, as a means to determine a company's relevance to a particular theme.

> **"Listed derivatives on thematic trends will be a long and winding road.**
>
> Randolf Roth
> Executive Board Member, Eurex

Beyond this, increasingly specialized data is being leveraged that can be used as a forward-looking indicator for intellectual property."

"The STOXX Global Metaverse that we launched last year is an example of this. Patents are great for capturing the opportunity set where revenues are not as well established, for instance, in emerging themes that have yet to penetrate a significant amount of the target market."

Themes as the new sectors?

Much of the debate around thematic indices has centered on whether or not they are displacing sectors as an investable index set for investors. Some data shows that AUM growth and new fund creation in thematic ETFs have begun to outpace sector ETFs in recent years.

However, the story is not as simple as one trend replacing another. In many ways, thematics are an evolution of sector indices, designed for greater flexibility and longer timeframes than the original sector approach.

Thematic indices go beyond traditional approaches to sector classification and apply an agile mapping system to design a dynamic, unconstrained, and sector-agnostic approach to identify companies with exposure to a specific theme.

These trends have required updates to systems such as FTSE's Industry Classification Benchmark, which classifies companies according to their main source of revenue.

"Slightly before the pandemic, there was a shift towards thematics, which has since accelerated," says Norbert van Veldhuizen, Head of Equity Index Product EMEA at FTSE Russell. "Industry Classification Benchmark (ICB) enhanced its structure to reflect the evolution of the global economy and new techniques enable broader coverage as certain themes are not yet classified as sectors."

Looking at sectoral indices may also provide clues on how listed derivatives evolve around the thematic underlyings. Sectoral index derivatives have proven hugely successful, but liquidity is not broadly spread. There have been favored sectors where liquidity concentrates and it is likely that this will also be how a derivatives ecosystem forms around the megatrends.

> **"The approaches used to construct thematic strategies are becoming ever more diversified in a bid to provide greater differentiation and to better capture the full opportunity set.**
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> Axel Lomholt
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> Head of Equity Index Product EMEA, FTSE Russell

The evolution of risk management

Since Q1 2022, volatility has been a continuous feature of financial markets and central clearing-houses (CCPs) have had to adjust their margining methodologies to meet the challenges of market conditions.

“In 2022 there was a real paradigm shift in the interest rate environment,” says David Horner, Chief Risk Officer at LCH, “from the very low and static rate environment we had seen for quite a few years, to this world where suddenly, rates were heading higher with more uncertainty around central bank policy and much more market volatility.”

While many market participants have endured a stressful adjustment period since the beginning of 2022, CCP risk officers have mostly stuck to well-rehearsed playbooks as they navigate these new conditions.

This is when the importance of predictable processes comes to the fore, both in communication on margin calls as well as transparent updates to risk models.

“We haven’t changed in terms of consistency of processes and predictability,” says Marcelo Carvalho, CPP Chief Risk Officer at B3.

“This is very important for our participants’ liquidity management, which could also come back to us. Even though we have been through more extreme events recently than during the previous ten years, we have kept the predictability and the processes. That is very important for participants and the CPP.”

In some ways, the paradigm shift started as early as March 2020 when Covid-19 began to spread. The pandemic had interrupted a long period of benign conditions across asset classes. When extreme volatility hit markets, it stirred up old debates about the pro-cyclical nature of CCP margin calls.

However, with volatility now a more embedded feature of trading conditions, complaints about CCP margin calls exacerbating volatile market moves have become calmer.

“Since 2020, industry discussion that accompanied all these changes has shifted,” says Dmitrij Senko, Member of the Executive Board at Eurex Clearing. “In the beginning, there were some myths about CCPs being a source of volatility and liquidity needs.”

“The discussion is more mature nowadays though and people recognize that market moves are a big driver and CCPs have the mandate to restore collateralization. It is also understood that margin should react to changing market conditions, otherwise it lacks the ability to adequately reflect new situations.”

“ The discussion is more mature nowadays though and people recognize that market moves are a big driver and CCPs have the mandate to restore collateralization.

Dmitrij Senko
Member of the Executive Board, Eurex Clearing

New risks to contend with

While CPPs have largely taken market swings in their stride, risk officers have had to cast much more attention to non-default risks this year.

The most dramatic example of this has been the cyber-attack on ION's systems. While market infrastructure providers have long recognized the risks and importance of cyber security, the hack on ION was a shocking case of the hypothetical becoming reality.

It also highlighted the increasingly complex and overlapping dependencies that form modern market infrastructure.

"As participants look for more and more efficiencies, you tend to get more actors than you had before," says Carvalho. "So, there are more moving parts and intermediaries in technology. We have a much more complicated and interconnected world than we did 15 years ago."

At a time of increasing geopolitical tension, the range of attackers is also broad, with national security implications that go beyond just money-motivated criminality.

"While this incident does not seem to have been a state actor, we now live in a world of increasing cyber-attacks from national intelligence services," says Teo Floor, CEO of CCP12.

This emerging paradigm has created regulatory as well as technological challenges.

"Operational resilience has gained traction in recent years but was less visible in the CCP regulatory agenda, which has focused on margins, waterfalls, and default losses. But now it is more and more relevant," says Dmitrij Senko, Member of the Executive Board, Eurex Clearing.

"Everyone was taking care of information security processes to get protected before, but for some, it was probably more of a theoretical exercise. Now it is a practical issue. This can be a catalyst for regulators and industry to work together to find even better solutions."

> **"It's possible to generate quite a lot of paperwork around third- and fourth-party due diligence without reducing the risk in a meaningful way.**
>
> **David Horner**
> **Chief Risk Officer, LCH**

In the immediate term, relationships with third-party vendors will be a major focus. Reviews of the processes governing these relationships are likely to undergo a significant overhaul. More proactive management is set to increase in the future.

"It's possible to generate quite a lot of paperwork around third- and fourth-party due diligence without reducing the risk in a meaningful way," says David Horner, Chief Risk Officer at LCH.

"You get much more value out of real risk management activities and especially those which are done jointly with those important third parties: joint contingency planning, joint incident review and lessons learned; joint crisis management testing. These types of things really have a lot of value in managing the risk."

Derivatives and portfolio management

2

As uncertainty continues to swill around financial markets, the pressure to innovate in derivatives has never been stronger. Innovation takes many forms. For traders and investors dealing with the daily fluctuations of volatile markets, it has meant changing the strategies and products that had worked during the era of loose monetary policy.

For market infrastructure providers, it means building products and markets that facilitate their clients' execution and improve liquidity. It also applies to improving workflows and clearing processes.

This section covers all these aspects and how they take shape in derivatives markets and portfolio management. It investigates the best ways to build the European derivatives markets of the future and grow liquidity in listed products. Here, the focus is on the total return futures and Eurex's success in structuring a listed derivatives product suite that facilitated liquidity transfer from the OTC markets.

Going forward, this theme will play out across asset classes. But the pattern for each market will be different, with listed credit derivatives set to play a very different role in their ecosystem than equity products. There is also a review of the markets of 2022 and 2023 and how participants have navigated the constant volatility. This will take in the experience at the coal face of trading as well as the longer-term implications that volatility will have on workflow and clearing.

Building the European derivatives markets of the future

The retail revolution in US options markets has provoked soul-searching among European market participants as they look to grow the continent's listed derivatives activity with deeper and more diversified liquidity pools.

While US markets have continued to mature, liquidity in European derivatives has been challenging to build. The market has been beset by a range of headwinds, including regulation, taxation, and even the continent's fragmented investing culture – with listed derivatives favored by retail participants in some countries while in others, products such as contracts for difference or warrants dominate.

"The key issue for Europe is that compared to the US, it is still a very concentrated market with a handful of core products," says Eric Böss, Managing Director, Global Head of trading at Allianz Global Investors.

"That is a reflection of the market participants. What drives a market are different investment styles and ways of looking at risk because, ultimately, this is a risk transfer market. In Europe, participants are not as diversified as in the US, which has a broader market with more retail, more hedge funds, and a more heterogeneous buy-side."

This situation now has many market participants debating what structural changes are needed to address this imbalance and increase the diversity and depth of European liquidity pools. As Böss notes, this would improve the risk transfer function of derivatives markets.

But it can also increase the resilience of other markets, cushioning the volatility from shock events with a broader range of risk positioning that creates more two-way flow.

"It has been almost shocking to see what the US market has been able to absorb in recent years," says Paul Jiganti, Managing Director, Head of Business Development & Market Structure Strategy at IMC.

"The markets of 25 years ago would have had significant operational problems absorbing the firehose of macro news. Today, because of diverse liquidity pools, there is enough liquidity to make market reaction much more appropriate to the new information." Paul Jiganti, Managing Director, Head of Business Development & Market Structure Strategy, IMC.

Creating the conditions for greater hedge fund and retail participation will be a key part of addressing the disparity between markets.

Increasing this participation will require structural changes to European markets. Currently, the European system creates barriers for retail participation, ranging from consumer protections to the state planning of pension systems. Investment in transparency will also be key to increasing new investors' education and confidence in the market.

> **"The key issue for Europe is that compared to the US, it is still a very concentrated market with a handful of core products.**
>
> **Eric Böss**
> **Managing Director, Global Head of trading, Allianz Global Investors**

"In the US, data transparency with the consolidated tape has supported participation," says Jiganti. "Pre-trade transparency, to see what the market looks like, and post-trade transparency, to see how a trade did compared to the market you saw, have also been significant drivers."

"What has also helped us grow is retail firms putting out an enormous amount of content to teach options trading in more clear everyday language, as well as giving competency tests for retail traders to set levels of risk they are permitted to take."

The role of innovation

Exchanges across Europe look to respond with innovation, bringing more retail trading and futurizing OTC products to attract a more diverse institutional base.

"What drives the European market foremost is innovation," says Philipp Schultze, Head of Equity & Index Sales EMEA at Eurex. "In recent years, there have been a lot of new, transitional volumes driven by innovation, such as in the dividend and total return derivatives markets. TRFs, for example, transformed the EURO STOXX swaps market in terms of interdealer volumes towards the listed market at Eurex."

"In recent years, there have been a lot of new, transitional volumes driven by innovation, such as in the dividend and total return derivatives markets."

"Europe may lag behind Asia and the US in volumes, but 2022 was still close to a record year for Eurex both in equity index and fixed income. These increased volumes are driven by a range of products covering different asset classes."

> **"TRFs are becoming an asset class of its own, facilitating trading of implied equity repo.**
>
> Elena Marchidann
> Vice President, Equity & Index Product Design, Eurex

Given the proper groundwork is done, the success of total return futures (TRFs) and dividend derivatives has demonstrated how swaps markets can be transitioned into listed derivatives, where transparency and liquidity are then improved. In the case of TRFs, this has allowed for further build-out of the product suite.

"TRFs are becoming an asset class of its own, facilitating trading of implied equity repo," says Elena Marchidann, Vice President, Equity & Index Product Design, Eurex.

"Eurex has been a pioneer in the TRFs space with the first product launched on the EURO STOXX 50 index in 2016. TRFs have a novel product construct with two legs (equity vs. funding), similar to OTC swaps. Globally, we are seeing a similar trend across other exchanges in Europe and US where listed products (such as Dividends or TRFs) have been launched as an alternative to OTC swaps.

"The fact that the product is now becoming more embedded in market participants' systems will further support overall Eurex TRFs expansion by listing additional products and onboarding new clients globally."

The product development of TRFs was an exhaustive process, as Eurex met with dealers many times to reach a consensus on how to best structure the contract. The final product replicated features of total return swaps and introduced innovative features for listed products, such as quoting in basis points, which has facilitated buy-side participation.

That effort has paid off, as first dealers, driven by their 2016 phase-in of UMR, moved to the market and then buy-side participation grew overall market size.

Eurex TRFs are now maturing as a product suite, with a market size of EUR 120 bn outstanding notional and a record volume of EUR 540 bn traded notional in 2022.

The success of the first TRF product has now created space for growing the suite, with the launch of three new Index TRFs, including FTSE 100 and Equity & Basket TRFs. Eurex has also recently

> **"Having a listed alternative really had an impact in bringing more liquidity to the total return product, compared to the OTC instruments.**

Omar Bennani
Head of EMEA Delta One Trading, J.P. Morgan

> **"Having more products moving from the OTC world to the listed just makes these things much easier for us.**

Natasha Sibley
Fund Manager, Janus Henderson Investors

launched calendar spread strategies for block trades with Index TRFs, designed to enhance the transparency and ease of trading execution.

"This will, in turn, support the potential introduction of calendar strategies in the order book as well – a move aimed to attract new liquidity on-screen and benefit the daily settlement process for TRFs," added Marchidann.

"Having a listed alternative really had an impact in bringing more liquidity to the total return product, compared to the OTC instruments," says Omar Bennani, Head of EMEA Delta One Trading at J.P. Morgan.

"Having more players enter this space created more balance in a market where historically structured desks were mostly positioned one-way, which at times led to some dislocations."

For the buy-side, TRFs have greatly facilitated participation in the asset class, compared to the much clunkier and more complicated TRS market they were born from. This is due to both the greater liquidity and transparency offered on the exchange, as well as the mitigation of the counterparty risk via Eurex. Clients have also benefited from cross-margining capabilities, with TRFs in the same collateral pool as equity and index derivatives. At the same time, banks can offer better pricing to the buy side due to these efficiencies.

"Counterparty credit risk is a major focus for us and futurization is a great way of solving that," says Natasha Sibley, Fund Manager at Janus Henderson Investors.

"Having to price for counterparty risk slows trading time down and also creates issues for UCITS funds where there are strict limits. Having more products moving from the OTC world to the listed just makes these things much easier for us."

"UMR is also a big topic. It means if we were trading OTC, we would be getting quoted higher margins now, and it's a complicated framework to implement."

"The other benefit of futurization is the ability to trade quickly and cleanly in stressed markets. March 2020, when TRF traded an absolute ton and we were very involved, is the exact situation where we want to be adding risk as levels get really interesting. Trying to trade that with OTC swaps and the novation process would have been much slower and likely impossible on some days."

"Having that ability to trade quickly in stressed markets is very valuable."

Basket TRFs and incorporating new indices

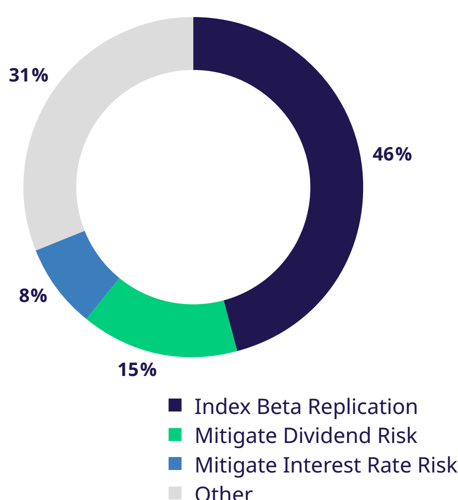
Equity and basket TRFs have also built momentum since their 2019 launch, with more than EUR 21bn notional traded since launch.

Here, Eurex drew on the same principles of product construction, replicating features of a former OTC transaction. Banks and interdealer brokers are already trading the product, with more preparing to onboard. Smaller regional banks, hedge funds, and sovereign wealth funds are also showing interest in trading the product.

"We launched Equity and basket TRFs as an offering for synthetic equity financing targeting the inter-dealer market," says Marchidann, "in particular large prime brokers and banks, but also smaller regional banks.

"The basket TRFs offering is another pioneering move, which we built on the success of the TRFs on indices. Our concept replicates the OTC basket swap trades with substitution rights handling while leveraging the advantages of a listed and centrally cleared environment (e.g., standardization, price transparency, margin efficiencies).

How are you primarily using TRFs for today?



"Trading activity accelerated recently, in particular in 2022 when we had a record year with volumes three times higher than 2021 and over EUR 21bn notional since launch. We are seeing more participants on both sides of the market preparing to join the Eurex ETRF/BTRF offering."

The next level of development for TRFs will be further incorporating additional products on global indices as a pure OTC swap replacement.

"We received demand for TRFs based on NTR indices in USD, covering various regions. This would support the index beta replication use case and will attract new clients in the TRF space," says Marchidann.

Aside from TRFs, demand is also building from clients for an increased offering of futures on global indices to replace swaps. This is set to include incorporation with the new and growing world of thematic indices, which institutional investors are taking an increasing interest in.

"The futures market becomes more relevant when underlying index allocations by asset owners increase," says Hitendra D Varsani, Managing Director and Global Head of Factor and Derivative Solutions Research at MSCI.

"The current set of building blocks that are tradable have very low exposure to thematic indices, themes like disruptive tech, robotics, and blockchain. When asset owners start allocating to them, they will need an ecosystem to develop to help manage their risk going forward, actively or passively."

This adoption will take time as institutional investors seek education on these new products and get comfortable with their risk profile.

"Thematics are seen as a riskier investment than sector indices because they have a longer-term horizon than the cyclical capture of sectors," says Serkan Batir, Managing Director, Global Head of Index Product Development and Benchmarks at Qontigo.

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Serkan Batir
Managing Director, Global Head of Index Product Development and Benchmarks, Qontigo

"The data and the processing of that, to create thematic indices is much more sophisticated. Opposite to classical industry classification data, different data sets are used. The earlier you try to capture these opportunities, signals along the diffusion curve of companies' businesses, additional tools are required, i.e., AI or other screening techniques."

"Demand is coming from ETFs, market makers, and product providers. As we see with TRFs, that help to grow the products and simplify the on-screen trading of the products, with greater standardization. "This is how the ecosystem operates. Liquidity and market makers are a catalyst for the further developments of these Delta One products."

While the challenges that European derivatives markets need to overcome for growth are significant, they are certainly not insurmountable. As futurization trends show, the power of innovation can bring together liquidity pools and grow new products if client engagement is done correctly.

Credit trading

The electronification of credit markets is taking hold, but the trend is manifesting itself in different ways to other asset classes.

Central to myriad technological changes and innovations in the market is the aim of overcoming a longstanding challenge for asset managers – that of constructing a relatively efficient and speedy credit portfolio. This has given rise to developments such as the rise of macro credit products, for example, indices and ETFs, as well as execution trends like portfolio trading, which look to address this challenge.

In their wake, the asset class has matured over the last 12 months. Macro products have started attracting a more diversified user base, with indices now used for directional views and their traditional function as a hedge. Meanwhile, ETFs have become a primary tool for multi-asset allocators to express views on credit.

"All that ecosystem is growing, resulting in increased liquidity that feeds into each other," says Juan Reig Mascarell, Global Head of Credit Solutions & Exotics Trading at J.P. Morgan. "Portfolio trading is also growing as an execution tool for portfolio managers. That growth has kept up the pace in the last twelve months despite the increased market volatility."

These developments, which are entwined with the increasing electronification of the market, are beginning to expand the role of exchanges. Products like options on credit ETFs and total return indices are coming online. They are designed to co-exist with OTC markets, not cannibalize their liquidity.

Volumes in these exchange-traded products held up during the volatility of recent weeks and with rising rates signaling a departure from the low-volatility decade just gone, the future of listed credit derivatives looks promising.

“We were able to get the sell-side comfortable that these products could co-exist alongside their OTC business and that it was another liquidity pool that they could develop and offload risk in,” says Lee Bartholomew, Global Head of Fixed Income Product R&D at Eurex.

“These are still very nascent markets, but they are building. Some participants want to use them for tactical purposes, others because of the leverage and they find using futures easier. Additionally, we are seeing specialist ETF market makers entering, which helps develop the ecosystem alongside the traditional players.

What electronification means for the credit market’s buy-side is wide-ranging. ETFs and portfolio trading may win more attention as the market grows. Still, electronification also forms a fundamental part of the effort to streamline workflows and trade and risk management more effectively.

“Electronification has led to the use of more algos within the execution, workflow automation, and more data on aspects like slippage,” says Bartholomew. “It will also play into the decision-making process of how clients access the market and determine if a product is fungible with their risk and liquidity profile and systems.

“There is a trend for greater electronification and credit is heading this way. However, you will not see a like-for-like approach to equities.”

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Lee Bartholomew
Global Head of Fixed Income Product R&D, Eurex

Cross-asset volatility in 2023

Volatility was a constant presence in markets last year, as inflation concerns, rising interest rates, and the war in Ukraine hit all asset classes. These underlying factors created unpredictable market conditions that hit many portfolios' performances and demanded skill in finding good hedges.

In 2023, uncertainty has remained a major challenge for traders across asset classes. However, its drivers have shifted, with many market participants now needing to adapt their strategies. While inflation will remain a defining market theme, participants are divided on how the trend will play out.

"As we started the year, there was a majority view that inflation was coming under control, accompanied by an increasingly optimistic view on China and the rest of the world. We saw equities rally, particularly in Europe. As a result, equity volatility reset significantly lower with the VIX trading below 20 for the majority of the year," says Alex Chatfield, global equity volatility trader at Optiver, a market maker that specializes in listed options across asset classes.

"Other investors were more nervous that inflation would be stickier than previously thought and would necessitate much higher rates to be controlled," adds Chatfield. "The market has shifted towards this view lately with the US terminal rate moving 50 bps higher in the past month on the back of strong jobs data and hotter-than-anticipated inflation."

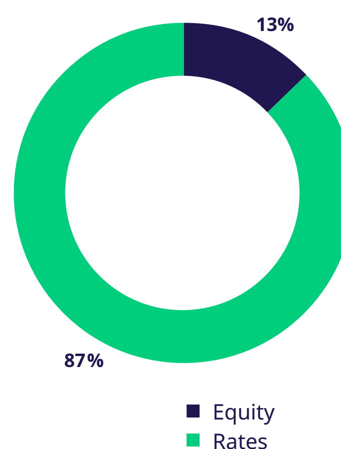
"There is a lot of uncertainty on what the outcome of the fight against inflation will be, and US rates could end the year anywhere between 3% and 6% as a result, which means we face another year of significant volatility across asset classes," says Alex Chatfield, global equity volatility trader at Optiver.

While most markets were hit by volatility and underperformance last year, the divergence of outlooks is feeding into asset classes – with an increasingly stark difference in the positioning in rates and equity markets. This divergence was a major theme last year, providing a rare opening to construct a profitable strategy.

"One of the major opportunities last year and maybe this year too was the huge dislocation between equity volatility and fixed income volatility," says Daniel Kutschker, Head of Multi Asset at LBBW AM.

"Equity volatility was relatively low, especially for these circumstances and fixed income volatility was extremely high for nearly half a year. This volatility dislocation meant we sold volatility on fixed income. Going far out of the money, the risk was relatively low and we spent the premium earned there to buy calls on SX5E.

Equity markets and rates markets are saying two different things about the outlook. Which one is right?



"As we were underweight equities, we wanted to hedge the tail risk and just buying puts outright was expensive and didn't work all the time, so we wanted to reduce the costs by selling volatility in fixed income markets."

While curves have inverted in rates markets, equity indices have staged a recovery from the drawdowns of last year to boast relatively stable performances – suggesting one of the two markets is due to experience a correction in 2023.

"We think equity volatility is too low, especially when compared to other asset classes like bond volatility, which is at all-time highs while the VIX is in the low 20s," says Marko Kolanovic, Chief Global Markets Strategist & Co-Head of Global Research at J.P. Morgan.

"Generally, bonds tend to have a greater insight into what is going on in the economy, whereas equities tend to get a little more complacent and technically driven."

For Florian Reibis, Head of Portfolio Management Structured Products at HSBC Asset Management Deutschland, 10-year swaptions offered another vehicle to go long on rates volatility. "These did well last year, and we still find them attractive from a carry perspective," adds Reibis. "The carry is positive, which is quite seldom for a long volatility position."

"We think equity volatility is too low, especially when compared to other asset classes like bond volatility, which is at all-time highs while the VIX is in the low 20s.

Marko Kolanovic
Chief Global Markets Strategist & Co-Head of Global Research, J.P. Morgan

Finding the right hedge and the return of simplicity

With inflation still very much present in the global economy, hedging is as important and as challenging as it was last year. Despite the difficulties of protecting against volatility in 2022, some investors did manage to structure sufficient protection into their portfolios.

"Most of the exposure in German multi-asset portfolios is in bonds, so if interest rates rise, it hurts us," says Daniel Kutschker, head of multi-asset at LBBW Asset Management.

"Last year, we tried to identify the most optimal way to hedge the risk of inflation rising further and turned our focus to energy stocks. The link between energy prices and inflation is obvious and these companies benefit directly from higher prices."

"Investing in energy stocks enabled us to hedge part of our bond exposure through equities. At this time, calls on energy sector indices were quite cheap, but puts were still selling at an attractive premium. So we bought call spread collars on the STOXX Europe 600 Oil & Gas Index."

Going forward, investors face a renewed challenge in finding smart hedges for the rest of this year. Yet while market conditions are uncertain, central banks' monetary tightening and rate hikes are also offering easier opportunities for returns after a near decade of yield hunting.

With returns on government and high-quality corporate bonds now offering attractive yields, investors have an opening to rebalance portfolios towards greater simplicity in both risk-return profile and hedging.

"Clients had previously searched for yield through alternative investments in less liquid sectors and some structured credit products, which meant more complexity in hedging and risks. Now, with high-quality corporate bonds' current trading levels, many pension funds can get target returns a bit more simply," says Bernhard Brunner, partner at finccam.

This is a good opportunity to restructure portfolios and it helps the asset managers who hedge the residual tail risk in their portfolios. It makes things more straightforward, which we may see more of going forward if the interest rate environment has truly changed."

Chatfield adds that liquidity can serve as a costless hedge in such uncertain conditions through methods as simple as favoring listed derivatives rather than OTC products in trading strategies.

> The drivers of equity market volatility were different across regions.
>
> **Florian Reibis**
> **Head of Portfolio Management Structured Products, HSBC Asset Management Deutschland**

Regional divergence?

This year, the gap between rates and equity markets may not be the only market divergence. While inflation concerns and central banks' rate hiking were treated as a mostly global trend last year, 2023 could be when regional differences become clearer and create opportunities for portfolio diversification.

The Bank of Japan was already an outlier in its monetary policy in Asia. However, new governor Kazuo Ueda and the path that he takes on yield curve control is still an unknown for market participants. The reopening of China's economy, which has beaten expectations so far, also hints at a different path for the region.

"Last year, China and Asia decoupled a bit from the inflation theme, which was more persistent in the US and Europe. The drivers of equity market volatility were different across regions," says Florian Reibis, Head of Portfolio Management Structured Products at HSBC Asset Management Deutschland.

"There may be some opportunities out there in the volatility space in Asia, with short volatility strategies like autocallables, where issuance broke down last year. That may be why Asian volatility is more attractive to sell, although this has to be monitored closely – when market participants come back, opportunity wanes."

Listed options rise

As volatility rose last year, so have trading volumes in listed options. A new phenomenon driving this trend has been the popularity of shorter-dated contracts, some with daily maturities. The emergence of these products is pushing market participants to consider the implications for the speed of market movements, but also the opportunities for harvesting premia and hedging.

It has also led to some concerns about the potential for market disruption from these new instruments. With volumes increasing, it is a development that market participants agree will require more focused research and analytics.

"Volumes in ODTEs have increased significantly and there is a fear that those positions can really accelerate intraday returns," says Brunner. "If you consider standard put/ call options and if the market starts to move in one or the other direction, the delta of those options can increase significantly and drive delta further."

"However, the market isn't one-sided and there are a lot of option sellers in the market as well as many investors who consider buying the dip after markets decline. That could actually reduce intraday volatility.

"Looking forward, I like the effect of having more liquidity in that market because that gives opportunities in designing tail risk hedging and exploiting risk premia. However, we are very careful about sticking to our intraday hedges to avoid a scenario where you suddenly run into a situation that accelerates intraday equity moves and can significantly impact your realized volatility."

For traders and investors, much of last year was spent firefighting against a backdrop of wild market movements. While those swings continue in 2023, new opportunities, such as the rise of OTDEs, may also open up amid the volatility.

Clearing innovation

Recent events such as the cyber-attack on ION and high volatility combined with another peak in clearing volumes in listed derivatives have injected new urgency into innovating the settlement and clearing processes.

This is important for individual firms but also the wider clearing ecosystem. The interconnectedness of global markets means that every market participant is only as robust as the weakest link. The industry's move to greater automation and straight through processing from trading to clearing has proved invaluable so far – when everything works. But automating the booking and allocation process does not guarantee cleared trades and full transparency. Breaks are possible even in a normal trading environment.

The trend to outsource automation and streamlining of the post trade process also means that when there is significant market volatility, there can be insufficient manpower to resolve the problem – precisely when market participants need full knowledge of their positions and risk exposure. Historic means of assessing risk through known scenarios and random backtesting are rapidly becoming insufficient for today's market conditions.

Microsoft's recent investment in the London Stock Exchange Group and Google's in CME Group demonstrate how the technology citadel around financial services is readjusting. New partnerships are forming that offer greater firepower and expertise. But technology providers are currently beyond financial regulator's remit. This situation adds complexity to firms' risk considerations as they engage and re-assess regularly with their suppliers and regulators, to ensure greater security in their legacy technology infrastructure.

Operational and technical resilience is already firmly on regulators' and market participants' radars. The fallout of the global pandemic forced firms to re-assess internal workflows and external collaboration with third-party providers. Making sure technology stacks are robust enough for the identification and transfers of orders and partials that may be mid-flight requires stringent applications, robust business continuity drills, clean hand-off protocols and the constant search for gaps by testing for errors.

The transition to the cloud exposes legacy infrastructure failures and the urgent need to digitally decouple. There is no shortcut for the industry to modernize quickly and efficiently, but the need to mitigate risk and lower costs in the current economic environment requires a rethink of how to address the challenges. Concern over loss of internal control, domain knowledge, and legal concerns over data ownership are leading firms to address how best to work with third parties who can add valuable additions to clearing workflow processes.

Greater industry standardization globally will also play an important part in ensuring consistency of communication. Where outages or peaks in clearing volumes do occur business can continue with full transparency on the clearing status of a transaction towards all market participants and activity transferred on T from one participant to another across the full trade lifecycle. This requires open and transparent communication from all parties involved. Lack of timely information to act on can be as damaging as receiving incorrect information. However, there is still more that can be done to reduce complexity and to facilitate allocations efficiently across multiple participants and accounts on T.

To address these challenges and to prepare for the future, market participants will need to focus their efforts and investments in clearing processes and related technology to become more coordinated. This might result in new and/or enhanced co-operations between and across the various players in the clearing ecosystem.Consequently, this means that innovation in clearing will remain firmly in the spotlight to avoid any unnecessary future market instability.

Liquidity and collateral management

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Long-held norms in the clearing and collateral management industries are shifting as interest rates rise and volatility embeds across markets. A sequence of crises has kept clearing practitioners busy as they worked to ensure the safety of market infrastructure. But while regulation had taken a backseat amid high volatility, it is soon to take center stage again.

Since the UK's Brexit vote, the future of euro swaps clearing has dominated debate around what a UK-EU regulatory framework will look like. With EMIR 3.0 underway, the discussion is set to ratchet up again, especially around active account proposals.

Regulation could also play an important role in the growth of Europe's cleared repo markets. These have proven robust and reliable liquidity management tools during volatile markets. They also have the potential to play a big part in easing the transition of pension funds – whose exemption from clearing is set to expire this June – into cleared interest rate swap markets.

Equally important to managing the increased demand for collateral that is arising from this changing landscape will technology. As uncleared margin rules push more derivatives users into cleared ecosystems, accessing collateral at speed will become ever more important. This urgency is only increased by an environment where rising rates and volatility have increased the need and difficulty of accessing cash for margin calls.

What’s next for euro clearing?

After years at the center of political debate, euro interest rate swaps clearing retreated from the headlines in 2022, as various events drew attention elsewhere. Following the Covid-19 pandemic, the war in Ukraine, the European energy crisis, and the UK LDI crisis have, in turn, all dominated clearing chiefs’ agendas.

These events have done little to dim regulators’ focus, however. Indeed, in the long term, they have strengthened their view on the importance of constructing a robust and competitive clearing framework for Europe.

“Unfortunately, we are still facing a highly volatile environment and a challenging outlook – with continued pressure on energy and, more generally, financial markets, as investors still grapple with the effects of monetary policy strategies,” says Klaus Löber, Chair of the CCP Supervisory Committee, European Securities and Markets Authority (ESMA).

“The past year and weeks have put a spotlight on weaknesses and dark spots in certain areas of our regulatory and supervisory system. This calls for expanding the strength of the supervision of the core financial system, not only in client clearing but also to markets which up until now have gotten less regulatory attention, such as commodities and also crypto.”

On the clearing front, market participants’ next task will be engaging with the European Commission’s EMIR 3.0 proposals. Chief among items for review will be the introduction of an active account requirement – the latest policy idea for supporting more embedded euro swaps clearing at EU-based CCPs. This would set minimum activity levels for firms that clear euro-denominated swaps, obliging them to maintain “an active account” at an EU CCP.

The proposal aims to build eurozone cleared swaps liquidity at a steady rate, thus avoiding a scenario in which firms scramble to relocate in 2025 when UK-EU CCP equivalence is set to expire. It is also being constructed to support the growth of more diversified liquidity pools on the continent.

“While the banks already execute a lot of activity on Eurex Clearing, buy-side participation still looks patchy,” says Erik Müller, CEO of Eurex Clearing. “We already have 600 clients connected, but to date, only half are active.”

“That means there are a lot of buy-side firms that are taking a big risk of running up against a cliff edge and not preparing, from a systemic risk point of view, for the eventuality of a big change.”

“If the EU eventually makes it a prerequisite for there to be a certain amount of business done on the continent, then it is better to have an active

“ If the EU eventually makes it a prerequisite for there to be a certain amount of business done on the continent, then it is better to have an active account in place now and push firms to move at least some proportion of their clearing activity to the EU.

Erik Müller
CEO, Eurex Clearing

account in place now and push firms to move at least some proportion of their clearing activity to the EU," says Erik Müller, CEO, Eurex Clearing.

"Better this than a cliff-edge scenario in June 2025, in which UK recognition is not granted and everyone is scrambling to move their positions."

Pushing for clarity

Market participants are keen for more detail on the parameters of the active account requirement, though. Concerns have been particularly vocal on the buy side, where firms are keen to understand the costs that new rules could bring.

"There is no number in the proposal, so everyone is asking what the numerator and denominator are," says Scott O'Malia, CEO at ISDA. "Does ESMA start small with a threshold and work its way up over time? Or does it start big and give a justification? We don't know that and that is a fundamental element to this entire proposal." With the active account still being drawn up, many experts are calling for a flexible approach to implementing the policy.

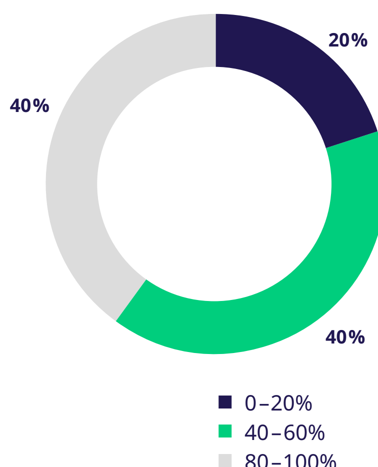
"The active account is not the worst next step of action should EU regulators intend to intervene," says Gaspard Bonin, Deputy Global Head of Derivatives Execution and Clearing at BNP Paribas. "But introducing a quantitative threshold is not the right thing to do, as there are too many moving parts, such as liquidity build-up, volatility in cross-CCP basis, and the end of exemption of pension funds. Besides, back to basics, should an EU end-user come close to a 'threshold', they may be forced to trade at the wrong price."

Pension funds ready for entry

A more certain regulatory development is due this June. From then onwards, European pension funds will cease to be covered by a many times extended exemption from clearing OTC derivatives.

This will officialize and cement a major buy-side presence in euro swaps markets and also bring changes to the market structure that require adaptation.

Pension funds, what percentage of your portfolio are you clearing ahead of the exemption expiry?



Pension funds enjoyed an exemption from clearing for so long principally due to the contradiction between their investment model of low cash holdings and the requirement to post variation margin in cash, which necessitates a higher cash buffer. Regulation has not provided a definitive framework for addressing these concerns.
But fortunately, market solutions do already exist. Principal among these are the repo markets, which offer intraday access to cash. For new entrants, there are also advantages to the clearing model that those buy-side firms already active in the space are reporting, with opportunities such as cross-margining and netting.

"For us, central clearing delivers significant advantages, not only in products with mandatory clearing but also for ones that we voluntarily clear," says Christoph Hock, Head of Multi-Asset Trading at Union Investment.

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> Head of Multi-Asset Trading, Union Investment

"We are a service provider to our clients and have to think about how we generate the best value for them. We have found that central clearing is definitely a path that we would like to take across all asset classes."

"We have fast come to the conclusion that, in general, the netting effects between euro swaps and listed derivatives deliver a far bigger advantage for our clients than netting IRS across currencies."

Adapting to repo

At a time of rising interest rates, pension funds' entry into repo markets is set to test both the funds themselves and the collateral management industry. A warning sign of the importance of good collateral management came in 2022 with the UK LDI crisis. While this event was isolated to the UK and had its own national idiosyncrasies, European pension funds have still taken notice.

"We definitely learned our lessons as an industry," says Max Verheijen, Director of Financial Markets at Cardano. "UK pension funds were in a different situation from European funds as, in real terms, their funding levels were lower. So, they were seeking yield, which they did by adding leverage. The lesson learned is you have to monitor whether you have sufficient collateral to pay that leverage. In the Netherlands, we have seen the Dutch central bank calling for pension funds to show how they could cope with a 100 bp change in interest rates in their quarterly reports."

"That makes the discussion on repo very positive. If pension funds fund the buffer with cash, they can use repo to make sure they are funding that in the cheapest way possible and minimizing the impact on expected total return while still harvesting their risk premia from return assets," says Max Verheijen, Director Financial Markets at Cardano.

As a market constituency that pays floating on its swaps, sourcing cash for variation margin calls is a challenge for all pension funds in volatile times. Even for those using repo, accessing collateral could be an issue if market participants rely on bilateral channels, which often seize up in stressed market conditions (see article below).

A 2020 ESMA report estimated that PV01 for Dutch pension funds, which hold the majority of euro-denominated pension fund swaps positions, was EUR 678m. That would require EUR 68 bn worth of cash collateral in the event of a 100 bps move. An ECB study from the same year estimated lower, in the range of EUR 36–47bn. Whichever figure proves more accurate, in the words of ESMA, "the impact remains sizeable and would result in an aggregate cash shortfall of EUR 6 bn to EUR 15 bn across Dutch PSAs". The demands on liquidity provision across the European markets will be significant.

"In normal market conditions, our members don't have concerns about converting high-quality bonds into cash, if necessary," says Matti Leppälä, Secretary General and CEO at PensionsEurope.

"But in more extreme market conditions, then they, especially the larger funds, are not certain that there is enough liquidity to do so in the repo market. The liquidity issue is a real one, and a real

If pension funds fund the buffer with cash, they can use repo to make sure they are funding that in the cheapest way possible and minimizing the impact on expected total return while still harvesting their risk premia from return assets.

Max Verheijen
Director Financial Markets, Cardano

concern. These risks have augmented the case for cleared repo, a market that has demonstrably stayed open during volatile market conditions, says Matti Leppälä, Secretary General and CEO at PensionsEurope.

"Granting access for pension funds to the CCP cleared markets may seem a challenge. However, market infrastructure resilience is greatly increased if a diverse set of participants is connected, e.g. Eurex cleared repo market liquidity is supported by the divering trading motiviation of its deriverse set of members, i.e. commercial banks, financing agencies, central banks, supranationals, pension funds and insurances."

This message is starting to gather pace in the industry, with the pressures of rising interest rates and the importance of reliable liquidity never more pertinent on pension fund chiefs' agendas.

"There has been a realization that, in the event of a large interest rate rise, there is the potential for a real liquidity squeeze, with impacts to be felt most by the larger funds that have the bigger positions and, consequently, the most requirement for cash," says Jamie Gavin, Managing Director, Head of Prime Brokerage Clearing at Société Générale. "They know that cleared repo is a dependable market that they can go in to and can access cash from in a short period."

"It's about being able to efficiently generate that cash in a time of stress on the same day. There are very few places where you can do that. With cleared repo, you know that you're facing a solid counterparty, you're going to get the best price and an efficient turnaround in terms of generating cash for variation margin."

Increasing competition

While regulation has been the first chapter of the euro swaps story, the second must also make competition and innovation central.

"The best way for market infrastructure to improve in a long-term, sustainable fashion is through actual competition," says Gaspard Bonin, Deputy Global Head of Derivatives Execution and Clearing at BNP Paribas. "Regulatory-driven flow can create unexpected and unfavorable biases in the market."

"This competitiveness needs to be global, especially in OTC derivatives, as these are global markets. For EU market infrastructures to grow, they need to compete for global flow, including from US and Asian firms. That is not to be confused with USD business as for EUR business alone, non-European firms' flow is extremely significant. Long-term flow from European official institutions would also be relevant to improve liquidity."

On liquidity, progress has already been encouraging. Notional outstanding for cleared OTC interest rate derivatives at Eurex Clearing has grown steadily over the years. In part, this has been spurred by regulation but also by initiatives such as the Partnership Program, which offers revenue sharing and governance rights to its members. Success so far points to the power of these changes – in the first two months of this year, those levels reached over USD 31 tr. These are levels of liquidity that can start to attract other market participants, thus spurring more activity.

"Hedge funds are naturally drawn to the deepest pool of liquidity, which today for euros is still in London," says Müller. "However, they have always told us that there is a threshold (EUR 30 tr) where they will look to participate at Eurex as well."

"Having been absent from the Eurex community, hedge funds are now looking at us, not only because we have reached their threshold but also because we have exchange-traded derivatives that funds can cross-margin against their swaps. That is an efficiency they can't find elsewhere," says Erik Müller, CEO, Eurex Clearing.

Liquidity at a crossroad

As markets deal with another year of upheaval and volatility, old questions are reviving as to whether funding channels and structures that ran smoothly during benign conditions can continue to function as before.

Principal among the changes sweeping through money markets is the reversal of a decade of loose monetary policy. Whereas in the decade between 2010 and 2020, ultra-low interest rates, TLTRO and quantitative easing were by-words for central bank policy, this is now defined by rate hikes and a reversal of bond buying.

That has increased focus on repo markets, reviving their importance as a funding mechanism for market participants. This has been reinforced by the full phase-in of uncleared margin rules, as well as the higher frequency of margin calls amid sustained volatility. "The repo market can and is coping with these new conditions," says Andy Hill, Senior Director at ICMA. "We have seen growth in the size of the overall repo market, with a 10% year-on-year increase in volumes, as well as an increase in bond market size, excess reserves, and the completed phase-in of UMR."

"Overall, the repo market is in a pretty healthy place. The data doesn't capture the effects of volatility, but positive rates, a positive curve, and volatility are what a repo trader wants," says Andy Hill, Senior Director at ICMA. "However, there are still challenges related to accessing the market, particularly around certain calendar dates or under more stressed conditions."

Hill references observable dips in secured repo activity and rates at quarter-ends and year-ends. Some experts attribute this trend to balance sheet pressures that banks face from having to collate data for leverage ratio and GSIB calculations on these dates, which leads to a reduction of liquidity.

More broadly, European repo markets have still struggled in recent times with collateral scarcity (see box-out). However, the trend is reversing, with

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> **"In the second half of 2022, the picture of money market activity has been partly complicated by the issue of scarcity of high-quality collateral.**
>
> **Imène Rahmouni-Rousseau**
> **Director General of Market Operations, European Central Bank**

central banks' quantitative tightening returning high-quality assets to markets.

"In the second half of 2022, the picture of money market activity has been partly complicated by the issue of scarcity of high-quality collateral," says Imène Rahmouni-Rousseau, Director General of Market Operations at the European Central Bank.

"In addition to the large bond holdings of the Eurosystem, several other factors have contributed to an increase in collateral scarcity. These include higher government bond yields and an increase in margin calls by CCPs, as well as the reduced intermediation capacity of dealers and investors' preference for short-term investments in a volatile market environment."

"We have already taken a range of actions to address this issue and recent developments in secured money markets show a notable easing of collateral scarcity. Moreover, in the next months, quantitative tightening (QT) will further alleviate general asset scarcity. Given the composition of maturing securities in the Public Sector Purchase Programme, QT will have a direct impact on the free float of highly rated securities. The ECB will continue to monitor this issue and stands ready to make further adjustments if necessary."

Increasing clearing

While repo activity is on the rise, there is still vigorous debate on what market structure it is best served in. Traditional European market structure has placed dealer-to-dealer activity in the cleared repo markets, while dealer-to-client trades are executed bilaterally.

The bilateral repo model has proven effective during benign conditions such as those enjoyed for much of the last decade. In this environment, clients have mostly enjoyed cheaper rates than they would in cleared markets. Unfortunately, as Hill references, these markets often seize up in stressed conditions.

"During times of no stress, the bilateral repo markets are less expensive. Not from a CCP fee perspective, but because clients sometimes do not have to pay a haircut on the collateral," says Matthias Graulich, Executive Board Member at Eurex Clearing.

"During times of no stress, the bilateral repo markets are less expensive. Not from a CCP fee perspective, but because clients sometimes do not have to pay a haircut on the collateral.

Matthias Graulich
Executive Board Member, Eurex Clearing

The banks are also happy to provide balance sheet for other derivatives businesses, which they sell as an economically attractive bundle. But they are not willing to do this during stress scenarios.

"This means that the motivation for clients to move into cleared repo during times of low stress, to prepare for these stress events, is very limited," says Matthias Graulich, Executive Board Member at Eurex Clearing.

CCPs' imposition of haircuts as part of their risk management operations may give bilateral execution an advantage during the good times. That calculus changes during stressed conditions though. Evidence shows that during these periods, cleared repo markets stay open, offering more reliable and transparent access to liquidity.

Furthermore, clearing proponents argue that there are cost efficiencies from multilateral netting that will alleviate balance sheet pressures on market participants. If pension funds and hedge funds enter cleared repo markets, they will benefit from netting opportunities with their swaps or futures positions (see article above). For pension funds, which face challenges in posting cash for variation margin, reverse repo can also alleviate pressures to invest the cash requirement.

As these market participants do not have accounts with central banks, they need to invest their cash buffers somewhere. Some pension funds are already reporting that reverse repo has proven

> **Europe is somewhat behind the curve in the frame-work it uses to encourage clearing. Improving this would not only make repo markets more secure, but it will also help central banks to make their monetary policy decisions much more effective in impacting the market.**
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> Executive Board Member, Eurex Clearing

a good instrument for this. This has allowed them to have buffers available while also making short-term investments.

A role for central banks?

As central banks raise interest rates, posting variation margins has taken on much greater importance, especially for market participants that pay floating on their swaps, such as pension funds. This is dramatically increasing the need to access cash, often at speed.

Volatility has augmented these factors, ramping up the frequency of margin spikes and, consequently, the need to source collateral. Given the bilateral repo markets' tendency to dry up in these conditions, market functioning has become a serious concern.

This is leading to a growing drumbeat for a more unified, all-to-all cleared market for repo. This could also lead to improvement in the transmission of monetary policy. Recent ECB research has shown a significant discrepancy between pricing in the cleared interdealer repo markets and bilateral dealer-to-client markets.

As the main source of short-term funding for financial institutions other than the major dealer banks, repo is an essential conduit for monetary policy. The ECB's research shows that "only 53.3% to 70.7% of the inter-dealer repo rate passed through to OTC customers during the ECB's September 2019 rate cut".

One solution being discussed is establishing central banks as part of the cleared ecosystem.

"Europe is somewhat behind the curve in the frame-work it uses to encourage clearing. Improving this would not only make repo markets more secure, but it will also help central banks to make their monetary policy decisions much more effective in impacting the market", says Matthias Graulich, Executive Board Member at Eurex Clearing.

"That is because their presence would reduce banks' need for balance sheet. Those banks would get money from the central bank via the cleared repo environment. They would face the CCP and if they passed that money on to someone else in the market, who was also facing the CCP, it would incur no material balance sheet cost for that bank. They would just need to execute the transaction. So, the transmission mechanism of providing liquidity sent by the central bank into the market would function much more effectively. Banks wouldn't need to add on their own costs when they pass this kind of liquidity into the market."

Government bonds in an era of rising rates

For European government bond market participants, adjusting to a new area of monetary tightening and rising rates has been highly challenging.

Traders, investors, and central bankers have struggled to predict the correct course of inflation since last year. This, in turn, has roiled rates markets and, in turn, other fixed-income assets.

“2022 was an annus horribilis. We have never had such negative returns,” says Michaël Soued, Head of Aggregate and Multi-Asset Total Return at Ostrum Asset Management. “It really was a disastrous year, with the energy crisis and changing inflation expectations, which drove rates higher. It was also a duration year, with duration impacting all asset classes: credit, covered bonds, and agencies. That made it very difficult to diversify and hedge portfolios using duration, as correlation changed a lot.”

“We had to adapt to a paradigm last year, with unprecedented volatility and less and less liquidity, even in typically liquid securities. That is a new environment and 2023 is confirming this,” says Michaël Soued, Head of Aggregate and Multi-Asset Total Return at Ostrum Asset Management.

Adapting to the new environment has been difficult, with uncertainty infiltrating all corners of the government bond markets. Even among those who believe rates will continue to rise, there are still major questions as to what the effect of TLTRO withdrawal will be, the speed with which ECB will reduce its balance sheet, and the effect all this will have on issuer and investor appetite. This has created unique challenges for the primary dealership model.

“All this market volatility has made our job very difficult in providing tight enough bid/ask spreads,” says Natacha Hilger, Managing Director, Relationship Manager European Debt Management Offices, Deutsche Bank.

“This year, volatility has been even higher than last year, which makes our job even more difficult in determining how to bid into the auction and how much we will be served at the auction. This is very difficult to calibrate and added to by most issuers’ requirements for strict bid/ask spreads, which makes it hard to stay within compliance thresholds.”

More broadly, there have also been periods when market participants have had to contend with a scarcity of high-quality assets essential to the functioning of market plumbing. These issues are expected to recede as the ECB reduces its holdings of such assets, but they are still causing a bumpy transition and have necessitated market interventions.

“The main topic last year was clearly scarcity in German government securities, which was mirrored in asset swap spreads,” says Thomas Weinberg, Head of Trading & Issuing Business, Federal Republic of Germany – Finance Agency.

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> Head of Aggregate and Multi-Asset Total Return, Ostrum Asset Management

"Volatility, as derived from the future contracts, peaked as well. We tried to calm the market down in Q4 2022 by increasing 18 of our outstanding bonds, which we then channeled into the repo market, which obviously helped."

While collateral scarcity is a concern for repo market participants (see article above), it has so far had more palpable effects on Bund futures markets. Here, volatility has, at times, caused significant uncertainty about which Bund would qualify as the cheapest to deliver on contracts. Solving this issue required further adjustment in market infrastructure.

"We realized that some players were not used to the pricing and uncertainty of a positive interest rate environment," says Frank Gast, Managing Director and Member of the Management Board at Eurex Repo. "So, this created some uncertainty, and together with some DMOs, we implemented measures to create more price stability with minimum holding periods for new issuances."

"We had a high level of liquidity in the special repo market but a lack of it in some other markets like futures. After years of QE, collateral has been pulled out of the market. Added to that is regulation like UMR, which requires high-quality assets to be used to cover margin requirements, being put in custodian accounts, and not being available in the market."

"Thirdly, CCPs play a role in volatile markets as we also offer high-quality assets to cover margin. Thanks to the efforts of the German Finance Agency, the new supply of bonds really helped to calm markets down and alleviate concerns around year-end."

"All this market volatility has made our job very difficult in providing tight enough bid/ask spreads."

Natacha Hilger
Managing Director, Relationship Manager European Debt Management Offices, Deutsche Bank

"We realized that some players were not used to the pricing and uncertainty of a positive interest rate environment.

Frank Gast
Managing Director and Member of the Management Board, Eurex Repo

The evolution of collateral management

During a decade of low-interest rates and subdued volatility, market participants didn't have to think very hard about how they managed and posted collateral. Now though, the landscape is changing.

Counterparts are having to respond to increased and sustained volatility with higher and more frequent margin calls. In conditions of monetary tightening, they are also no longer guaranteed the easy access to cash that allowed them to meet margin calls in an orderly manner during the era of quantitative easing.

"One of the roles of a clearing broker has been to manage the market volatility that has come off the back of inflation-related uncertainty over the last 12 months," says Daniel Johnson, Futures and Derivatives Clearing Treasurer, EMEA, and Asia at J.P. Morgan."

"That drives higher margin volatility and trading volumes for our operations to clear. From a liquidity management perspective, there are a lot more considerations to think about, such as our ability to meet intraday margin calls, particularly as CCPs want these settled in a very short period."

"In this environment, all parts of the chain have assessed opportunities to seek out enhanced yield and the level of queries we have received on collateral optimization alternatives has certainly increased. Underpinning these shifting market conditions has been the completed phase-in of uncleared margin rules, which now require counterparties to these trades to post initial and variation margins on their positions."

"The OTC bilateral world has been busy the last few years," says Neil Murphy, triResolve Business Manager at OSTTRA. "UMR has been a challenge. It was a global regulatory response to a global financial crisis and a very coordinated response among jurisdictions."

"The purpose was about improving risk management and reducing systemic risk within the OTC space. The rules have leveled the playing field between OTC bilateral and cleared markets. It worked on some firms, which either reduced or got out of bilateral, but others can't clear everything, so they are forced to keep using OTC."

The need for technology

Taken together, these trends are pushing market participants to look to technological solutions. Such is the combination of regulatory and market pressure that standing still is not an option. In this new environment, efficiency has to be a priority in collateral management.

"Regulation may have triggered some of the need for efficiencies and innovation but, going forward, we are going to see more and more of that driven by the market," says Amy Caruso, Head of Collateral Initiatives at ISDA.

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> **Head of Collateral Initiatives, ISDA**

Uncleared derivatives trades that are now moving to the cleared markets are a prime example of this dynamic. The shift between markets doesn’t just require adapting to new trading protocols, it also demands more operational change than many anticipate.

“If you trade OTC derivatives that have been mandated to clear, we won’t novate that trade unless there is sufficient collateral to cover the IM,” says Phil Simons, Global Head of Fixed Income & FX Derivatives and Repo Sales at Eurex.

“You have to put that collateral in place before you trade and try and calculate your margin requirements. Either your clearing broker funds that, or you have to pre-fund, which has a cost associated with it.“During the last eight years, that cost wasn’t very high. Now, that has completely changed. Collateral efficiency and optimization have become very important in how you manage that cost. You now need to be smart in how you manage your cash and collateral.”

These headwinds have given life to several industry initiatives that seek to create common standards and platforms that can help create efficiencies across the market. ISDA has been at the forefront of a number of these initiatives, such as coordinating the creation of SIMM for initial margin calculations under UMR.

“UMR was a nice, slow build-up,” says Murphy. “The market had time to organize itself, learn, and work together collaboratively. Working together to introduce new tools, such as the SIMM model. The development of that standard model, which could be replicated and reused, was very important.”

Lately, ISDA has developed an online negotiation tool, ISDA Create, as well as developing operational procedure guidance for functions like portfolio reconciliation. “One way to reduce counterparty risk is to prevent disputes and a great way of doing that is to look at your data and your counterparties’ data and make sure it is in sync,” says Caruso. “To this end, we have developed a suggested operational practice guide, which combines collateral components and regulatory requirements in some jurisdictions.”

Digital solutions

While industry collaboration forms one part of the evolution of collateral management, so does harnessing new technology and pushing for innovation in-house. Given the increasing pressure to access collateral at speed, firms will need to review investments in their own technology stacks.

Here, the digital assets market has provided opportunities through modes like distributed ledger technology, which has the potential to increase both the speed and ease of access to collateral.

“There are many opportunities where we can improve the speed of collateral transfer and improve current inefficiencies,” says Johnson. “What is important now is a broad recognition of these and a collective effort to increase the speed of access to collateral.”

Technology and digital assets

4

Cloud computing and blockchain technology look set to transform derivatives trading, both creating efficiencies in existing practices and bringing new processes to market. Recent deals between the major exchange groups and cloud computing providers represent one of the most potentially transformative innovations from exchanges since the advent of electronic trading. At the same time, the challenges that the digital assets market faced in 2022 show little signs of slowing progress and innovation in the market.

This section examines what exchange tie-ups with the major cloud computing providers will mean for market participants.

In addition, it explores how new European rules will create a safer environment for trading digital assets and create a platform for future growth and innovation in blockchain technology.

Finally, there is an analysis of how innovations in FX trading are creating a hybrid market across OTC and futures trading and bringing capital efficiency and new ways of trading to the market.

Exchanges embrace the cloud

Over the past two years, several major exchange groups have announced deals with the three major providers of cloud computing environments. These deals mark the latest phase of evolution for exchange technology infrastructure, and it promises to be one of the most significant to date.

In November 2021, CME Group unveiled a partnership with Google to move the group's IT infrastructure and markets to the cloud. This was followed by Nasdaq penning a deal with Amazon Web Services, the London Stock Exchange Group partnering with Microsoft, and Deutsche Börse Group announcing its strategic partnership with Google in February 2023.

Adoption of the cloud, from which servers and applications are accessed over the internet rather than being deployed on-premises, has been on the rise in financial markets for over a decade.

However, the moves by exchange groups represent one of the biggest shifts in adoption.

> **The deal with Google Cloud presents huge opportunities for the exchange group and its clients.**
>
> Michael Peters
> CEO, Eurex

> **Ultimately the cloud enables people to innovate faster and more efficiently.**
>
> Rochak Lamba
> Head of Innovation for Financial Services, North America, Google Cloud

Michael Peters, CEO of Eurex, says that the deal with Google Cloud presents huge opportunities for the exchange group and its clients.

"We are looking at all applications that have the potential to be more efficiently run in the cloud. Software development, simulation environments and other infrastructure pieces are potential areas to qualify. In addition, the partnership with Google Cloud has a strong focus on innovation of products and services such as digital assets and tokenization."

One major reason for the growing adoption of the cloud among financial firms has been that it offers the ability to scale capacity up and down without investment in new servers.

According to Rochak Lamba, Head of Innovation for Financial Services, North America, Google Cloud, that is just the start of the benefits that cloud deployment can bring.

"The cloud means a lot of things," he says. "First, it offers firms elasticity and the ability to scale effectively in a secure infrastructure so they can innovate and create new and better products. "Second, it is about how you use your data and create value out of that data. Ultimately the cloud enables people to innovate faster and more efficiently."

Exchange groups that have signed deals with cloud providers have different strategies for what will be moved over to the cloud. Some are planning full-scale deployment of the entire trading infrastructure. Peters says that the core infrastructure that is latency sensitive will not be part of the Google agreement.

“ The cloud may actually prevent you from becoming more innovative if you don’t understand the use cases. To do this, you need to be close to your customers and think about what you are offering them and build the use cases around them.

Philipp Baecker
Expert Partner, Bain & Company

The new oil

Rather, for Deutsche Börse, data will be at the heart of the transformation to cloud-based technology. Data has been termed the new oil owing to its value in the modern economy. However, to effectively extract the value from that data requires significant computing power. Exchanges sit on huge amounts of transactional data and with this volume comes opportunities to analyze and enhance.

However, to do that at scale requires various tools to apply additional services, such as analytics driven by machine learning and real-time data transformation. The cloud offers these services, enabling users to collect and enhance data more efficiently. In addition, it reduces the speed to market for new product development.

The low-hanging fruit includes taking applications that run on-premises and migrating them to the cloud, which creates efficiencies in capital expenditure. Once applications are in the cloud, they can interact with other services that are hosted there, such as machine learning tools, without the need to buy in additional computing power.

“Once you have migrated your applications to the cloud, you can then look at how to modernize them and build better and faster releases,” says Lamba.

Philipp Baecker, Expert Partner at Bain & Company, says that a focus on use cases is essential to making the most of building data services in the cloud.

“To create value out of data you need to find the right applications. We have run many different business cases with clients and if you just look at cost and efficiency, it is a tough calculation. You have to open the door and think wider in terms of innovation and bringing new tools to bear – that is where the opportunity lies in the cloud.”

“The cloud may actually prevent you from becoming more innovative if you don’t understand the use cases. To do this, you need to be close to your customers and think about what you are offering them and build the use cases around them.”

Wider application

While a key focus for Deutsche Börse under its deal with Google is to develop new data offerings for clients, other exchanges are going further.

Nasdaq has partnered with AWS to develop its cloud-based products and the exchange has migrated its first matching engine to the cloud as part of a strategy to “build the next generation of cloud-enabled infrastructure for the world’s capital markets.” Roland Chai, EVP & Head of Marketplace technology at Nasdaq, says that a key benefit to the exchange of basing its applications in the cloud is the processing capacity that it enables.

“During the pandemic, with the volatility and activity in stocks such as GameStop, we hit 80bn messages a day. We see the cloud and the ability to use elastic computing as essential in preparing for a world of 180-200bn messages a day. That elasticity is needed and the cloud brings the ability to scale quickly.”

The perfect use case for us when it comes to artificial intelligence is about finding at the right moment, the best sources of liquidity, and the best prices.

Christoph Hock
Head of Multi-Asset Trading, Union Investment

Machine learning

It is through combining cloud-based data processing and machine learning that many of the future processes of the industry will be created.

Machine learning already has many operational applications in derivatives trading outside the trading algorithms with which it is most commonly associated.

Christoph Hock, Head of Multi-Asset Trading at Union Investment, says that the investment group is using machine learning and artificial intelligence to analyze its trading performance. "A key question for us is how to use data to enrich our trading process. We have 300,000+ transactions across asset classes per year."

"The perfect use case for us when it comes to artificial intelligence is about finding at the right moment, the best sources of liquidity, and the best prices."

Artificial intelligence in derivatives can be applied to order types. For example, an order type with a dynamic interval uses machine learning to calculate the optimal interval to execute at mid-point.

Also, in options markets, machine learning can be used to evaluate the best option strike. Both of these offerings are being developed by Nasdaq.

In post-trade, Eurex uses machine learning to predict settlement success and failure rates based on the instructions from market participants. Exchanges have been traditionally at the heart of innovation and the shift to the cloud promises to accelerate that innovation and create new processes and efficiencies for investors for decades to come.

The future of digital assets – the path to a regulated playing field

2022 was an annus horribilis for crypto markets. The price of bitcoin and other digital assets plummeted and several high-profile failures of hedge funds and lenders exposed significant weaknesses in market structure. Then in November, FTX, which had been lauded as the future of global derivatives markets by some, collapsed into bankruptcy amid allegations of fraud and misuse of client funds.

However, despite the disruptions of 2022, the price of bitcoin has remained remarkably resilient and, at the time of writing, was around 40% higher than on the eve of the collapse of FTX. Institutional interest remains strong and new assets, protocols and concepts are being launched by the week.

However, according to Rafael Zanatta, Equity & Index Sales EMEA at Eurex, there has been a re-evaluation of the market by many institutional investors. "Institutions took a pause last year as they re-evaluated how they are approaching crypto markets, who they want to interact with, and the level of transparency they want over trading operations," he says. "Some firms within the eco-system lacked focus on counterparty risk and the market was operating without the same amount of regulation and risk management controls as exist in TradFi markets."

"Going forward, there will be much more scrutiny on counterparts, something that we are already starting to see now."

In April, Eurex became the first exchange in Europe to offer Bitcoin index futures, a contract developed in partnership with FTSE Russell and Digital Asset Research. The futures contract gives investors the ability to gain exposure to the price of Bitcoin but in a cash-settled, regulated, and centrally cleared environment. The underlying FTSE Bitcoin Index reflects the settlement price of Bitcoin as determined by the FTSE DAR Reference Price. The new futures contracts are traded in EUR and USD.

Kristen Mierzwa, Director, Head of Digital Assets at FTSE Russell, says: "We are hearing from investors that they want everything from pure exposure to Bitcoin and are starting to look at broad-based digital asset exposure. We are at the point where the investment community recognizes that every firm wants to have an established opinion on the digital asset opportunity."

MiCA in the EU

While regulators have historically been slow to build frameworks to regulate digital assets, Europe reached a key milestone in March with the approval of the Markets in Crypto-Assets (MiCA) Regulation.

MiCA will provide a harmonized regulatory framework for crypto assets in the EU. The regulation was proposed in June 2020 and is set to come into force this year.

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>
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> Equity & Index Sales EMEA, Eurex

> We are at the point where the investment community recognizes that every firm wants to have an established opinion on the digital asset opportunity.

Kristen Mierzwa
Director, Head of Digital Assets, FTSE Russell

> For the first time, we will have a harmonized regulatory approach across Europe. As a result of MiCA, we are seeing a lot of investors in the US taking a greater interest in Europe.

Maha Al-Saadi
Compliance and Regulatory Affairs Director, Bankhaus Scheich

MiCA will introduce a wide range of requirements, including licensing requirements for crypto asset service providers; new rules around the disclosure of information about crypto assets; requirements for the prevention of money laundering and terrorist financing, and standards governing the protection of consumers trading digital assets.

Maha Al-Saadi, Compliance and Regulatory Affairs Director at Bankhaus Scheich says: "For the first time, we will have a harmonized regulatory approach across Europe. As a result of MiCA, we are seeing a lot of investors in the US taking a greater interest in Europe."

"Through MiCA, Europe is embracing the technology and creating a safe environment for crypto assets to trade in."

Alongside MiCA, the EU is also developing a DLT pilot regime that provides a contained environment in which blockchain-based platforms can be built and tested. In addition, the Data Act defines smart contracts and contains mandatory proposals for their development in the EU, including the requirement for a kill switch to be included. "All of these create a more secure and stable environment for Digital Assets," says Al-Saadi.

It is expected that the adoption of digital asset trading among institutional investors will grow as the regulatory framework in the EU is introduced. Most significantly, the EU rules create an environment in which onshore regulated venues can develop products and offerings in crypto derivatives markets.

To date, the majority of liquidity is being traded on offshore venues. While these venues offer deep liquidity pools and vibrant investor bases, the collapse of FTX highlighted the counterparty risk firms face investing in non or lower-regulated jurisdictions.

In addition, institutional investors have to navigate the complex market structure of offshore venues, including establishing wallets, fully pre-funding trades, and keeping abreast of the auto-liquidation mechanism dominant on crypto-native markets – this sees positions reduced if collateral falls below a certain level.

While the crypto-native market structure has brought significant innovation, such as real-time risk management, many investors, lacking the expertise to navigate the market, are waiting for onshore regulatory frameworks to be finalized before starting to trade.

Zanatta says: "Institutional investors will be more reluctant to go to an offshore market to trade crypto assets based on the events of 2022. So they will be looking for exposure via trading venues that they already have established relationships with and utilize for other asset classes."

"Our client base would rather dip their toes into the asset class via a more convenient method of access with the lowest barriers to entry, and that is what we are offering. You don't need to set up wallets or a separate offshore entity, but you can simply gain crypto exposure via your established broker relationship and trade it like a EURO STOXX cash-settled future."

Al-Saadi adds: "It is getting easier for institutions to adopt digital assets. BaFin was early to regulate cryptos under AML regulations. We then had the crypto custody license and the E-Securities Act that deals with the dematerialization of securities."

"On the back of MiCA, we know what to expect. We know that if you are doing anything traditional in the case of security tokens, then MiFID/ MiFIR, EMIR, CSDR etc., will apply. But if you are going into stablecoins, which under MiCA are referred to as asset-referenced tokens and e-money tokens on one hand and crypto assets on the other, then you know the rules surrounding authorization and supervision."

"The regime for investor protections is also made very clear under MiCA, which also requires certain crypto-assets services providers to have proper insurance coverage in place. Added to that, best execution, segregated accounts, and redemptions are fully covered. Also, once a provider reaches a certain threshold, they move from local supervision to one at a European level. All these comfort points increase the interest of institutions who know that it is no longer the Wild West – there are frameworks around the trading of digital assets in the EU."

Looking to the future

How quickly the EU onshore market will grow following the introduction of MiCA remains to be seen. However, it is likely to be the first point of contact for many new institutions coming into the market seeking exposure to digital assets.

What that means for the crypto-native markets is unclear today. Many such exchanges are accelerating regulatory roadmaps and seeking to relocate to jurisdictions with greater regulatory oversight.

The advantage of the crypto-natives is the lead they have against exchanges that were waiting for onshore regulatory frameworks. In addition, crypto-native firms boast deeply liquid markets with extensive retail activity. In the long term, this might result in a fragmented market. In traditional markets, liquidity in a listed derivatives contract tends to form entirely on one exchange. Owing to the varying pace of regulation, it may be that crypto remains fragmented for some time to come.

Whatever steps US regulators take will also define the evolution of onshore markets. To date, the US has been slow to develop a regulatory framework, with wrangling between the SEC and CFTC on whether certain digital assets are securities.

However, once regulatory certainty is established in the US and other key jurisdictions alongside the EU, a vibrant onshore market for trading digital assets is expected to develop in a regulated environment. This will forge the next evolution phase of this exciting new asset class.

FX futures and OTC: Europe's hybrid future

Listed FX futures and options in Europe have lagged behind the US in their adoption. However, interest is growing as new rules change the economics of trading in uncleared markets. Investors are now looking for new ways to achieve the flexibility of OTC with the capital efficiency and depth of liquidity in the listed markets.

At the start of 2022, there were strong expectations of significant growth in listed FX derivatives trading. The final phase of the Uncleared Margin Rules had been introduced, bringing more buy-side firms into scope. New capital rules in the form of the Standardized Approach for Counterparty Credit Risk (SA-CCR) were also expected to change the economics of OTC FX for many banks.

Volumes on Eurex benefitted significantly from the regulatory changes. FX derivatives volumes on the exchange hit a high of 1.69 m, up from 730,000 the previous year.

Jens Quiram, Global Co-Head FIC Derivatives & Repo Sales at Eurex, says that the rising volumes have come alongside growing demand from the market for information on how the FX futures can be used in place of the OTC markets. This is being driven by increasing funding costs as a result of UMR for the buy-side and SA-CCR's impact in increasing RWA and capital costs for direct members.

“ OTC EFPs and blocks are the perfect tools for the banks to maintain their bilateral relationship and activity in the OTC FX market and then move the transaction to the listed market to be centrally cleared.

Jens Quiram
Global Co-Head FIC Derivatives & Repo Sales, Eurex

"There was a significant increase in interest in listed FX futures in 2022," says Quiram. "That has continued into 2023 and we have significant interest from the buy-side, the liquidity taker side. In addition, we saw more interest from banks acting both as clearing members and liquidity providers."

Exchange for Physicals

While interest is growing across the FX listed suite, Eurex has seen particular growth in its Exchange for Physicals Service in FX. Under the EFP model, an investor simultaneously executes an FX futures contract and an OTC transaction in the opposite direction. The OTC leg is bilaterally negotiated and can be customized according to OTC market conventions, while the FX futures leg is a standardized instrument traded and cleared at Eurex.

EFPs enable firms to access the global pool of FX spot liquidity while gaining all the benefits of a cleared FX futures position, with lower capital charges under UMR.

"OTC EFPs and blocks are the perfect tools for the banks to maintain their bilateral relationship and activity in the OTC FX market and then move the transaction to the listed market to be centrally cleared," says Quiram.

Eurex sees this hybrid of OTC and listed markets as the future of the European FX market.
In 2015, Deutsche Börse Group, Eurex's parent company, acquired the FX trading platform 360T, which gives the exchange significant reach into the OTC markets.

"The OTC and futures markets are not different islands; they are connected. We are providing the bridge between the two to combine them. Our aim is to offer the broadest product suite across OTC and the listed market, which benefits

from standardization, portfolio margining, multilateral netting, and standardized collateral and funding procedures at the CCP."

"We are not talking today about either the OTC or listed markets but offering one toolbox that allows clients to pick and choose the best service, product, and infrastructure for them. In the end, the ideal state is one pool servicing all markets and EFPs and blocks are the start of this," says Jens Quiram, Global Co-Head FIC Derivatives & Repo Sales at Eurex.

By bringing the two venues together, users can conduct a bilateral price negotiation which is then transitioned into a future via an EFP. Counterparties then enter the EFP into the trading system and it is passed for clearing. Eurex plans to work with 360T to automate the process so it becomes STP-based.

Shuo Wu, Global Head of FX Forward eTrading at Deutsche Bank, says: "Having the products ready is one thing, creating the end-to-end workflow is key to the product's success."

"Switching between risk transfer and algos efficiently is essential, but that requires investment in technology. We need to make sure that for every product we can offer an easy integration for them to adopt it. Otherwise, despite the benefits of the product, it is difficult to trade."

Flex Futures

In addition to the growth of EFP in FX, Eurex is developing Flex Futures, which will provide investors with greater specificity in the listed market. In traditional futures markets, traders trade the IMM dates, rolling the contracts each quarter. In the OTC markets, investors can trade bespoke dates every day. Flex Futures offer the flexibility of the OTC markets in terms of dates but with the wrapper of a listed market.

Wu says: "Flexible futures are a unique offering and they have a special position in the German real money market, offering tax benefits for German asset managers."

"The contracts don't need deep liquidity on the screen before you can start using it, as you are only using the venue to facilitate the workflow. In time, the market can start to take some liquidity onto the screen and bring more participants to the market."

" Flexible futures are a unique offering and they have a special position in the German real money market, offering tax benefits for German asset managers.

Shuo Wu
Global Head of FX Forward eTrading, Deutsche Bank

The combinations of EFPs and Flex Futures represent significant innovations in the listed FX market and ones that are likely to further increase the appeal of listed markets as an accompaniment to OTC.

Listed markets offer significant cost savings emanating from multilateral netting and portfolio margining. In addition, firms are not facing different counterparties like on the OTC side, which means position adjustments have to be made with the same counterparty with which the trade was entered.

Eurex is also offering portfolio margining across different currency pairs. There are also operational and cost savings that come from not having to maintain multiple bilateral relationships, ISDA agreements, and SLAs.

Wu says: "2022 was a fantastic year for everyone trading FX forward and spots, lots of vol and opportunity. Going into 2023, with the rate movements coming down, volatility will be lower and a lot of issues will show up. SA-CCR has increased costs and put a lot of pressure on the model to run FX forwards. Everyone is looking for possible solutions to introduce to solve the problem. Future integrations and EFPs are all solutions that we are looking at."

"When margins are high, no one looks at the details, but if banks are going to succeed in the new environment, they need to incorporate the CVA, hedging cost, brokerage fees, and drive the product offering to the client. Because of our expertise in e-trading, we can meet the challenge and move the market in the right direction, but we need to make sure all the counterparties can navigate through the new market environment."

Sustainability and carbon

Carbon trading is one of the fastest-growing areas of global capital markets today. From humble beginnings in the mid-1990s, carbon trading systems today cover around 55% of the global GDP and present huge opportunities for derivatives markets.

Carbon trading is a key part of the ESG investing movement, which has grown substantially in recent years. Listed ESG derivatives are gaining traction and expanding into new asset classes providing investors with a means to scale up and down positions and hedge exposures. However, both carbon trading and ESG investing require an effective regulatory framework to continue their growth.

This section looks at the current state and potential growth of global carbon markets and explores how regulation and common approaches could ultimately lead to the formation of a single price for carbon trading.

In conclusion, the section examines whether current EU rules risk slowing the growth of ESG derivatives trading and looks at how compromise is essential to building liquidity in listed ESG derivative contracts.

Carbon markets: the next big asset class?

Carbon trading has been in existence since the 1997 Kyoto Protocol and the first significant carbon trading scheme, the EU Emissions Trading System (ETS) was launched in 2005. Carbon markets today represent the next big asset class for investors, but there remain challenges in developing the market to realise its potential.

Carbon markets play a key role in reducing global CO_2 emissions and facilitating the transition to net zero. They also provide governments with new revenue schemes and investors with the opportunity to provide liquidity and extract value from this fast-growing market.

The number of systems being launched is increasing. While the EU ETS is the most advanced and mature market globally, today there are 28 systems in place across the globe including the world's largest in China. Across the globe, 17% of global emissions are now covered by an ETS and in 2022, USD 63 bn of emissions were traded according to the International Carbon Action Partnership.

However, while the market is still growing rapidly and new systems are in development, the Russian invasion of Ukraine and the resulting spike in energy prices was a key challenge in 2022.

Florian Rothenberg, Senior Analyst at ICIS, says: "The whole of 2022 was driven by uncertainty and volatility. There was a need to burn more coal and at the same time there was a lot of disruption as Europe moved away from Russian gas. The fundamental uncertainty of supply remains in the market today."

However, according to Rothenberg, the political uncertainty that followed the invasion of Ukraine combined with the cost-of-living crisis, which led to calls from some politicians to focus on energy security rather than the transition to net zero, has been mitigated by agreement on a bold reform of the EU ETS.

Fit for 55

In December, the European Commission, the European Parliament and the EU Council finalised a provisional agreement on a broad set of proposals known as the "Fit for 55" package. The Fit for 55 reforms are designed to ensure that the EU meets its target of a 55% reduction in emissions by 2030 and carbon neutrality by 2050.

Florian Rothenberg says: "Policy makers in the EU agreed an ambitious reform of the EU ETS and so the political uncertainty we saw in 2022 is not present in 2023."

The Fit for 55 package raises the target of emissions to be achieved under the EU ETS to 62%, phases out the free allocation of carbon credits in some sectors and will see the development of the new ETS 2, which will includebuildings, road transport and other smaller industries.

> **"Policy makers in the EU agreed an ambitious reform of the EU ETS and so the political uncertainty we saw in 2022 is not present in 2023.**
>
> **Florian Rothenberg**
> **Senior Analyst, ICIS**

> We are very favourable to the CBAM, it will decrease the free allocation of carbon credits and so it is a big step forward. It should also incentivise other jurisdictions to launch carbon markets.
>
> **Aude Filippi**
> **Director Sustainability Markets, EEX**

> There are around 30 compliance markets in place, in operation or under development covering around one fifth of global omissions. There is a very positive story developing in the carbon markets at the moment.
>
> **Kavita Ahluwalia**
> **Vice President and Head of Global Positioning, Uniper**

In addition, the package marks the creation of the EU's Carbon Border Adjustment Mechanism (CBAM), which is designed to mitigate the potential for firms to offshore production and import carbon-intensive produce.

Aude Filippi, Director Sustainability Markets at EEX, says: "We are very favourable to the CBAM, it will decrease the free allocation of carbon credits and so it is a big step forward. It should also incentivise other jurisdictions to launch carbon markets. We have seen some ideas in development that are linked to the introduction of CBAM so it is good news for Europe and for carbon markets globally."

Looking globally

The EU ETS is the most advanced and mature system, but many others are in operation or under construction globally.

Kavita Ahluwalia, Vice President and Head of Global Positioning at Uniper, says that carbon markets are "on the up" across the globe.

"There are around 30 compliance markets in place, in operation or under development covering around one fifth of global omissions," she says. "There is a very positive story developing in the carbon markets at the moment."

Aside from the EU ETS, Germany also has its own system while other non-EU countries in Europe such as Kazakhstan, Switzerland and Turkey are also developing carbon trading systems. In the US, a series of regional schemes are being developed or in operation following the lead from California's cap-and-trade system.

Across Asia and South America, countries and regions are developing schemes, while in 2022 Nigeria became the first African country to announce plans to launch a carbon trading system.

The developers of new systems are looking to the EU for lessons on how to build out their systems.

"You need a cap on emissions that goes down and is aligned with your climate target," says Rothenberg. "It should also be aligned with any overlapping politics such as the phase out of coal. Otherwise, you end up with a market that is oversupplied."

"The other key requirements are to have a credible penalty system and the right compliance instruments in your market. If you want to achieve your emissions reduction target domestically you should probably not include any voluntary offsets."

Ahluwalia adds: "There are various different regions coming on board, notably Japan and New Zealand. Local and regional aspects need to be taken into account – it is not a case of one-size fits all. Even within the EU there are differences – for example the industrial base in Germany made free allocation an essential component for political reasons.

"These differences have to be taken into account as more countries move forward with their systems. A lot of headway is being made, but these are technical and cumbersome discussions."

Several regions are developing voluntary schemes, where there is no mandate to trade for specific companies or sectors but companies can raise revenues by selling off carbon credits.

Many in the market see voluntary schemes as an initial step towards developing regulated markets with specific targets and mandates for participation.

Linkage potential

Across the market, there is broad welcome at the pace of development of new systems. However, industry leaders are calling for greater harmonisation of approaches to facilitate future growth.

While there are significant regional differences that must be reflected in the various systems, there is also a need to harmonise approaches, or at least standards, to achieve the long-term goal of linking the various global schemes into one worldwide carbon trading system.

Filippi says: "The EU ETS is the biggest cap-and-trade system that has reduced emissions in all sectors that was covered by it. It has been a great success but the general target is a global carbon price."

"We are a long way from that today, but co-operation across regions is increasing. Linking the different systems across the globe is essential to creating a global price."

Ahluwalia agrees: "There is a need for common methodology standards to create a harmonized approach."

ETS linkage is about more than common approaches though. When the UK left the EU it developed its own ETS, which is essentially a copy-and-paste of the EU ETS. However, to date there has been no concrete progress around linkage, owing to a lack of political will rather than the challenges of building a link.

Rothenberg says: "From a market efficiency perspective I think pretty much everyone in the market wants the UK and EU ETS to be linked. The liquidity is not there in the UK system and the two regions are effectively linked already via the power connectors. I don't see a downside to linking the two systems."

Winning the debate

The biggest risk to the near-term development of carbon markets is the political environment if the high costs of energy continue. The carbon markets are maturing and evolving to produce systems that are very effective in capping and reducing carbon emissions.

However, as the EU expands its ETS, there is a risk of a pushback from electorates facing higher energy bills and inflation elsewhere. The EU has foreseen this threat, building into the agreement the potential to delay the launch of ETS 2 by a year if high energy prices continue.

Ultimately though, carbon markets have endured various challenges from political backlash to sub-optimal designs over the past 15 years and the asset class will continue to grow as more systems are introduced globally.

> **"There is a need for common methodology standards to create a harmonized approach.**
>
> **Kavita Ahluwalia**
> **Vice President and Head of Global Positioning, Uniper**

The role of derivatives in ESG investing

Derivatives have a vital role to play in the implementation of ESG strategies, allowing investors to fine tune and rapidly scale investments up or down, reduce funding costs and hedge exposures and ESG related risks. However, EU regulation needs to go further to boost the ESG derivatives market.

Listed ESG derivatives have been one of the fastest growing areas in derivatives markets over the last years. However, EU regulators have taken a cautious approach to the treatment of derivatives in the development of the Sustainable Finance Disclosure Regulation (SFDR) Taxonomy-related Product Disclosure.

Despite strong arguments from the industry, the European Commission excluded derivatives reporting in the numerator when calculating the alignment of a portfolio with the taxonomy.

Under SFDR, the calculation of the key performance indicator that measures the share of an environmentally sustainable activity in the financial market product, is calculated as the ratio between the numerator – the market value of all investments in environmentally sustainable activities – and the denominator, the market value of all investments (i.e. the AUM of the fund).

The final Regulatory Technical Standards (RTS) of the SFDR included derivatives in the denominator but not the numerator, meaning that all derivatives exposures – even those invested in ESG indices or other products – have a negative impact on the Taxonomy Alignment Ratio of the fund or product.

The Commission argued that this was required as it was difficult to decide the value of derivatives exposures to sustainable investments but the decision to exclude derivatives from the denominator has been met with significant push-back from the industry.

According to Anette Andersson, Senior Sustainability Investment Specialist at SEB Investment Management, the inclusion of ESG derivatives in the calculations for fund classification was a major step forward for their application to sustainable investing.

“With the new regulation coming in, we can use derivatives as a sustainable investment,” she says.

“We have only been using derivatives historically as an efficient way to get into the market when we have had fund flows in or out or when we are changing the allocation. Now we will be able to use derivatives in a different way to accomplish our sustainable investment objectives.”

> **“ Now we will be able to use derivatives in a different way to accomplish our sustainable investment objectives.**
>
> Anette Andersson
> Senior Sustainability Investment Specialist,
> SEB Investment Management

Despite the boost from the Article 8 and 9 definitions, investors across Europe are calling for the EU to review its decision to prevent derivatives exposures from being reported in the numerator for taxonomy alignments when it conducts its review in 2024.

The continuous trading interest in ESG derivatives demonstrates the demand from the market for the products. However, the current EU approach will result in increased costs for market participants and disincentivizes hedging and the adoption of ESG derivatives.

Eurex has argued that ESG derivatives that are aligned with SFDR should be included in the ratio. Even though they do not provide a cash exposure or immediate funding or liquidity to the companies, they are a major tool for investors to use in their ESG strategies.

They also improve the liquidity in shares and bonds that are included in the ratio and provide forward pricing for companies and a lower cost of funding. ESG derivatives should therefore play a part in the regulation that is being developed in Europe.

Despite the move from the EU, ESG derivatives are a fast-growing tool for investors. That growth is likely to accelerate across Europe, as more products are launched and investor adoption increases.

Nordic asset managers call for compromise in approaches to ESG derivatives

Asset managers in the Nordics have been pioneers of listed ESG derivatives, working with exchanges to develop products that meet their needs and those of the wider market.

Owing to the need to build liquidity in listed derivatives contracts, developers of indices and exchanges that launch futures and options on those indices cannot accommodate the views of all market participants.

Unlike in the OTC markets, where baskets can be built to meet investors' specific approaches to ESG, listed futures by their nature are standardised. This means that exchanges need to take a broad-based approach to their development.

Over the past five years, exchanges have supported the shift towards responsible investing by launching various ESG contracts to meet specific requirements. One of the key contracts that built up liquidity is the STOXX Europe 600 ESG-X contract that is based on exclusion criterias.

Today, leaders in the market are calling for compromise from investors to further grow the market. Liquidity today, while growing, is being held back by investors that are seeking the perfect fit for their ESG approaches.

Kristin Wallander, Senior Sustainability Analyst at Swedbank Robur, says: "ESG futures were launched in collaboration with exchanges. There are so many ways that we can collaborate, and it is really interesting what has been done in a field that wasn't developed at all a few years ago."

"Listed ESG derivatives today aren't perfect, but the market is evolving fast and collaboration and compromise is key to its success and future growth."

Anette Andersson, Senior Sustainability Investment Specialist at SEB Investment Management agrees: "The market needs to find the middle ground and compromise. Maybe (a listed product) won't 100% follow a sustainable investment policy at a particular firm but if it does to a large enough degree that should make it acceptable."

Building liquidity in ESG derivatives

Recent years have seen significant growth in the number and sophistication of ESG derivatives on the market. While the opportunities are growing for investors, several key challenges remain.

The first ESG future was only launched in 2019. However, since then the market has grown significantly. Today there are numerous listed ESG futures and options contracts based on various index methodologies across exchanges globally.

However, according to data from the FIA, of the contracts listed in 2021, only 21 were actively traded and building liquidity remains a key challenge for the nascent listed ESG market.

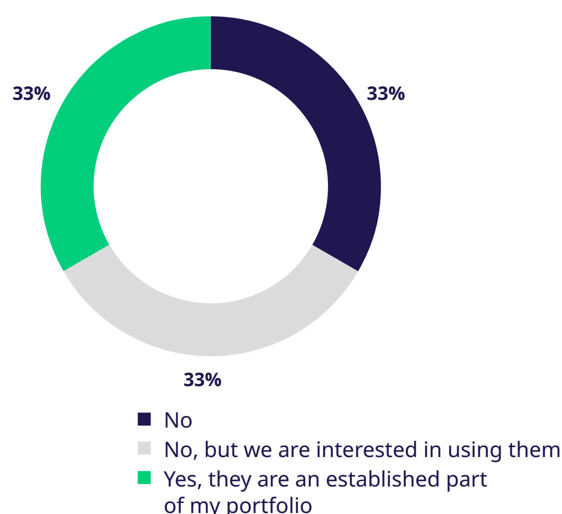
Liquidity in the major ESG contracts on Eurex has grown considerably over the past 18 months as the number of participants increases. Liquidity providers like Susquehanna can offer significant size directly to clients for block markets and, according to Robert Switzer, Senior Derivatives Sales Person at Susquehanna, the spreads in some ESG markets are as tight as the standard indices with the competition for market share.

“Liquidity is deeper than people think in ESG derivatives,” he says.

“We provide direct prices in underlying’s such as the ESG STOXX 600 options that have comparable spreads to the regular index derivatives.”

“Currently ESG derivatives trade mostly via block trades. Given there is little flow on screen, liquidity providers are not necessarily incentivised to maintain screen widths as tight as possible so the incorrect perception that these products are less liquid can be formed. Getting a direct quote from a liquidity provider can often result in a significantly tighter market than that displayed on the screens and in bigger size.”

Do you use ESG derivatives in your trading strategies?



Stefan Thomsen, Multi-Asset Trading Desk at Union Investment says that the support of market makers is essential for him to trade the products. “We need good support from market makers on screen to put through our risk models. If you have no quotes, you don’t have live prices in your risk modelling.”

“In addition, a liquid listed product that is quoted tightly in the market gives us visibility over the prices. Compared to the OTC markets where it is harder to gauge the market price, liquid listed products always give you the visibility you need.”

Developing new products

Exchanges have faced a challenge in the development of derivatives on ESG indices. On the one hand, they need to build contracts that reflect the diversity of approaches across the market. But on the other, listed derivatives need to be standardized to build liquidity.

“New contracts thrive with standardization as they can be used across market participants and jurisdictions,” says Davide Masi, Fixed Income ETD Product Design at Eurex. “This is a key aspect we take into account when deciding which index and methodology to adopt.”

Another challenge facing exchanges and index providers is minimizing the tracking error against the index, says Antonio Celeste, Director of Sustainability Product Management at Qontigo. "The difficulty is related to the fact that investors want to achieve different goals, from reducing emissions to improving biodiversity metrics,” he says.

“In addition, the index has to maintain a low tracking error in order to fit into a core allocation. Achieving this challenging level of complexity is only possible with a deep understanding of ESG data and the use of a high-level optimizer.”

The availability of derivatives for sustainable investments has increased and evolved alongside the approach of asset managers and investors.

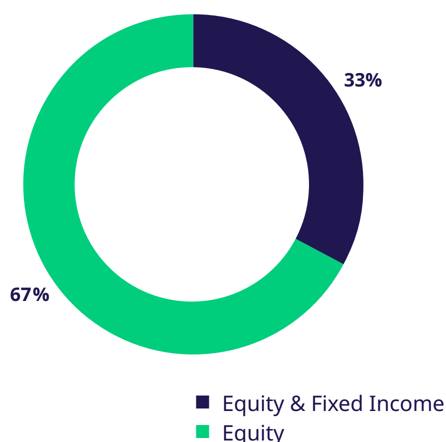
The first products to launch were exclusions-based, with examples including the Eurex ESG-X suite of contracts. Following that, Eurex developed contracts that covered other strategies such as ESG integration. Recently stricter ESG methodologies were applied to underlying indices as a result of market consultations: the MSCI ESG Screened, STOXX® ESG-X and EURO STOXX 50® ESG index methodologies were further enhanced. The changes included stricter ESG screening criteria and broader considerations of some SFDR principal adverse impact (PAI) indicators while maintaining a close tracking error to parent benchmarks.

Expansion into fixed income

The complexity of ESG data is exacerbated as investment strategies move out of equities and into other asset classes. In 2021, Eurex launched futures on an ESG fixed income index, the Bloomberg MSCI Euro Corporate SRI Index and the Bloomberg MSCI Global Green Bond Index.

There are two key unique data challenges to the fixed income ESG market. First, is the sheer volume of companies in the fixed income markets compared with listed markets. Secondly, there is significantly less available data, as unlisted companies are not subject to the same reporting and disclosure standards as those that are listed.

Which asset classes have you used ESG derivatives for gaining exposure to in your portfolio?



Fixed income investors with sustainable investment strategies are now taking a more proactive approach to get information from companies. Meanwhile, ratings agencies and index providers are finding ways to provide data, despite the relative lack of transparency.

MSCI’s research covers over 14,000 total issuers, including subsidiaries, that are mapped to more than 680,000 equity and fixed income securities globally.

Vasileios Koutsoulis, Executive Director, Derivatives and Fixed Income Index at MSCI, says: “ESG analysis is commonly done at the corporate issuer level and not dependent upon the type of financing (equity vs. debt). In the instance where a corporate has listed equity, MSCI will typically cover the debt financing of the same parent issuer.

“This is done by analysing the corporate structure of the issuer and mapping financing vehicles or subsidiaries to the parent’s ESG data. For private issuers who do not have listed equity, MSCI will work to collect the information we need to conduct an ESG assessment but often the publicly available information is insufficient.”

> We see some investors who already have ESG policies in place, integrating ESG across their portfolios, now seeking to reinforce their climate risk management.

Vasileios Koutsoulis
Executive Director, Derivatives and Fixed Income Index, MSCI

For Eurex, there was an additional challenge in building a futures market in fixed income ESG. The Eurex ESG fixed income future was not only the first fixed income listed contract in ESG but the first Euro investment grade listed contract at all. Despite this, it traded over EUR 15 bn in notional in 2022 with open interest peaking at over EUR 1 bn.

However, the relative infancy of the listed credit derivatives market and challenges unique to that asset class have historically showed less opportunities for the development of new contracts. Eurex launched a high yield non-ESG index future as they found that there was not enough standardisation and consensus in the market for the success of an ESG version says Masi.

"Listed derivatives are one of the last wheels to move, sometimes we try to drive innovation but usually we follow the market," he says. "We see products develop in the OTC market and then we work with market participants to move them onto exchange traded markets."

The next stage of evolution

ESG investing has evolved from simple exclusion strategies to integration and best-in-class, and then onto a focus on specific goals, such as the United Nations Sustainable Development Goals. When it comes to derivatives, climate-based derivatives look set to the be one of the next areas of growth in the market, as climate-investing becomes more mainstream.

Koutsoulis says that MSCI generally views ESG and Climate investing as distinct areas of investment. "When working with clients, we tend to distinguish between ESG and Climate in order to identify their primary objectives to enable them to select a solution that is best suited to help them meet their objectives," he says, adding that climate has now become central to most client conversations.

"We see some investors who already have ESG policies in place, integrating ESG across their portfolios, now seeking to reinforce their climate risk management," says Vasileios Koutsoulis.

"For example, they may want to supplement their ESG strategy with additional carbon emissions screens or use additional climate metrics in their reporting or risk management process. Mitigating ESG financial risks may continue to be the investor's primary objectives, but additional climate risks considerations are widely being added."

The market for products based around the UN Sustainable Development Goals are also expected to grow. This is a key area of focus for Swedbank Robur, says Kristin Wallander, Senior Sustainability Analyst at the investment firm. The company is, for example, working with the Global Child Forum, an initiative launched by the Swedish royal family targeting improvements in children's rights globally.

Global Child Forum has developed a benchmark assessing companies' implementation of children's rights in their business. One idea is to in some way include the children's rights data in derivatives says Wallander.

Ultimately, as investors appreciation that ESG risks and financial risks are intrinsically linked grows, ESG investing will only grow too. MSCI has produced research that provides empirical evidence that ESG ratings provide valuable information for both systematic and stock-specific risks.

The research found that companies with high ESG ratings showed higher and more stable earnings, slightly higher earnings growth and lower levels of stock specific risk, especially lower levels of tail risks.

"We observed that the ESG rating did actually measure material corporate risk that can have an impact on stock prices," says Koutsoulis.

Best practice in assessing the climate impact of portfolios

As the sophistication of ESG investment in Europe continues to increase, responsible investing principles are being applied to more areas of the trading cycle.

According to Christina Sell, Chief Sustainability Officer, Trading & Clearing at Deutsche Börse, clearing houses (CCPs) could play an essential part in supporting the transition to net zero.

“Every part of the industry has to contribute to the sustainable transformation. CCPs are central financial infrastructure providers so the question for us is: what can we do?” she says.

“Eurex has developed the Eurex ESG Clearing Compass to assist clients in their transition to a more sustainable investment portfolio and to leverage the reach of the CCP.” Christina Sell, Chief Sustainability Officer, Trading & Clearing at Deutsche Börse.

Initially, the ESG Clearing Compass includes two core services: the ESG Portfolio Assessment and the ESG Visibility Hub.

The ESG Portfolio Assessment allow firms to measure the overall impact of securities collateral posted against a portfolio based on climate metrics.

“The ESG Portfolio Assessment service provides tailor made ESG data based on the cleared portfolios of our clearing members and those of their clients,” says Sell.

“Using the ESG Portfolio Assessment, clearing brokers and their segregated clients will be able to calculate carbon emission exposures of their cleared portfolio, for example.”

Crucially, says Sell, the data is provided through already established channels, so clients don’t have to onboard a new data provider. In addition, a clearing members can use the data, which is sourced from ISS ESG, to provide additional services to their clients through the analysis of portfolios.

“Once the clearing member knows the “carbon footprint” of their clients, they can support them in decarbonisation efforts, for example. Or they can connect them to a venue that sells carbon credits,” she says.

Eurex envisages developing a “what if” calculator that works in a similar way to the margin calculator it already offers. This will enable clients to run simulations to understand how they could decarbonize their full portfolio.

“We know that positions at Eurex Clearing will for most firms only be part of their overall portfolios,” says Sell. “But the ESG Clearing Compass allows them to upload the complete cleared portfolio and run simulations against that.”

The next step for Eurex could be to build out more data including the S and the G of ESG. “We are looking to enhance the service over time and provide more tailor made solutions to our clients,” says Sell.

“We hope that the clearing industry will jointly develop more attractive solutions and contribute to the transition.”

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