

Post Trade Investor webinar –

Hosted by Daniel Maguire & Isabelle Girolami

**TUESDAY 01 OCTOBER 2024**





**Host:**

Good day, ladies and gentlemen, and welcome to the LSEG Post Trade webinar hosted by Daniel Maguire, Head of LSEG Markets, and Isabelle Girolami, CEO, LCH.

During this webinar, all participants are in listen-only mode. Later we will conduct a question and answer session. To submit a written question, please click the Q&A button at the bottom of your Zoom screen.

You can submit questions throughout the duration of the presentation. Instructions will also follow at the time of Q&A. I would like to remind all participants that this call is being recorded. Questions will be answered after the presentation.

I will now hand over to Peregrine Riviere to begin.

**Peregrine Riviere:**

Great, thanks very much and welcome, everyone. Good morning or good afternoon, wherever you are, and welcome to our webinar. This is very much a teach-in rather than a mini Capital Market Day. I think we've become quite conscious over the last year or so there's a very wide range of knowledge around our Post Trade activities and we're particularly keen to make sure some of our newer shareholders can get up the curve as far as they need to in understanding why we exist, how we do business, and what the growth drivers are for Post Trade.

So I'm delighted that Daniel and Isabelle are joining us. They're going to present for 45, 50 minutes which will leave 40 minutes time for Q&A. So please do submit your questions and we'll do our best to answer them. And with that, I'll hand over to Daniel, thanks.

**Daniel Maguire:**

Thanks, Peregrine, hi, everybody. I'll jump straight in. So let me just quickly give you a heads up on the agenda for today so we know we are going to be talking.



Post Trade overview

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Clearing and market drivers

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LSEG Post Trade in detail

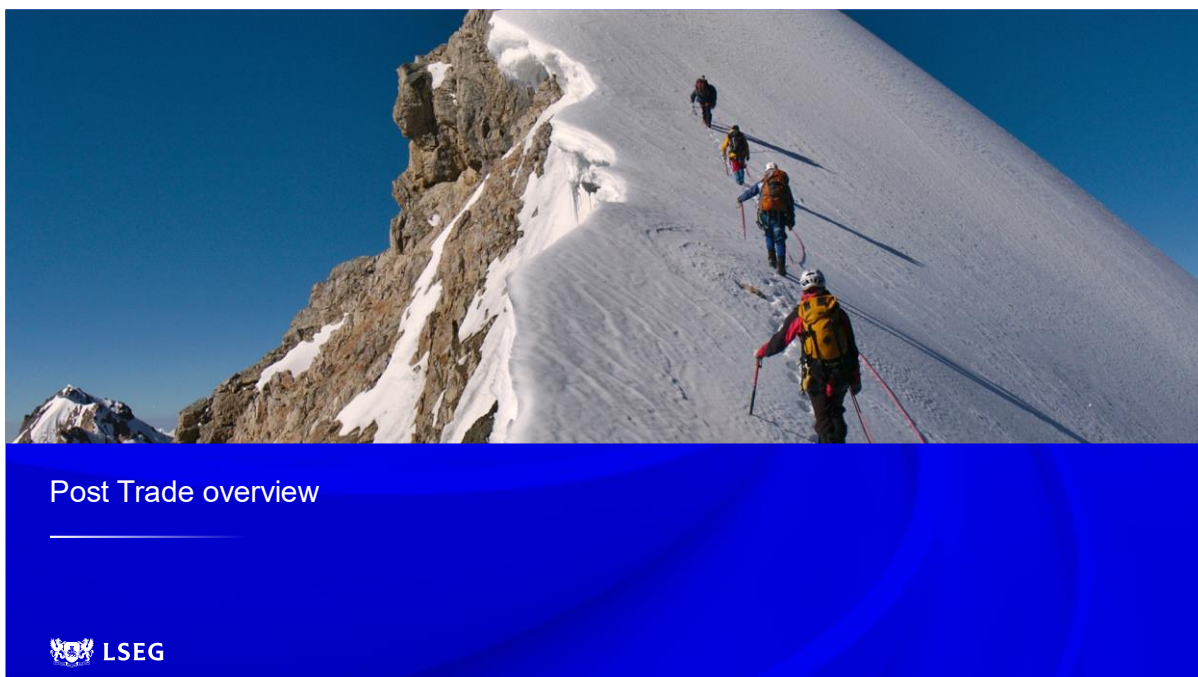
**Daniel Maguire:**

So first of all, I'm going to give a high-level overview of what LSEG Post Trade is across the different aspects of the business really just as a level set and then we're going to go into a bit of a teach-in on some of the fundamentals of clearing, some of the key market drivers for the business both now and looking forward.

After that, I'll hand to Isabelle. Isabelle will step through you know business by business within the clearing houses that we have, and then I will finish with talking about Post Trade Solutions and some of our goals, ambitions, aspirations, and progress that we've been making to date there.

And then finally, I'll just highlight some of the additional longer-term growth opportunities.

So that's just very briefly what we intend to cover today. But to Peregrine's point, really welcome Q and we'll have hopefully lots of answers for you as well.



## Post Trade overview

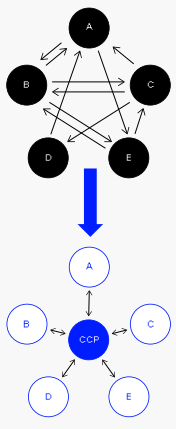
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### **Daniel Maguire:**

So let me go a little back to basics if I may and just start with just as a level set, what is a central counterparty and why will you use that?

## What is a Central Counterparty and why would you use it?

<p><b>What does a Central Counterparty (CCP) do?</b></p>	<p><b>What are the main benefits?</b></p>	<p>Bilateral</p>  <p>Cleared</p>
<p>A CCP stands between the parties in a trade - <b>buyer to every seller and the seller to every buyer</b> - guaranteeing the trade in case one party defaults.</p>	<p>Reduction in counterparty credit risk</p>	
<p>To provide this guarantee, the <b>CCP requires margins from members</b> (initial margin and variation margin).</p>	<p>Margin efficiencies</p>	
<p>If a <b>member defaults</b> then the CCP allocates losses in excess of member margins to surviving members.</p>	<p>Trading flexibility</p>	
<p>Margins are invested/stored safely by the CCP and generate income (NTI).</p>	<p>Reduction in operational risk</p>	
	<p>Balance sheet netting and capital efficiencies</p>	



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### Daniel Maguire:

You can see on the slide some interesting diagrams on the left. I think that the key points to really take away here, number one, what is a central counterparty? It is a central counterparty that is sitting in the middle of the markets and is reducing your counterparty risk. It is providing default protection.

As you can see on the right-hand side as you look at the screen, in the world of bilateral, so where people are trading point-to-point over the counter or otherwise, you have many, many bilateral relationships. And as time has gone by, those are things that have to be collateralised and you have counterparty exposure in doing that. If you put a clearing house, a CCP, central counterparty at the middle of that, very quickly as you trade with each other, you'd give those trades up to the clearing house. And the CCP, you'll hear us say this time and time again, will become the buyer for every seller and the seller to every buyer, guaranteeing the trade in the case of any kind of default or in good times and peace time, making sure flows of profits and losses are going across the piece.

So that's fundamentally what a clearing house is doing and that's been around since the late 1800s. But we've been applying different asset classes into these OTCs, as well as exchange-traded. Very quickly, another benefit you get is when you put these things together, you get a lot of netting. So what does that mean? It means rather than having margin with five counterparties in this example, you have it with one and you get the longs and the shorts offsetting.

So it becomes efficient from a margin standpoint, as well as from a risk reduction standpoint, and then finally, it becomes much more efficient from an operational standpoint as well which is a very good byproduct as well I guess in terms of having one line where you have to pay a margin rather than five and so on and so forth. You can do this on an exchange-traded basis or over the counter on different platforms, and I think the key thing to take away about this is yes, you get netting, but also when you face somebody as a counterparty bilaterally, you have an exposure to that counterparty.

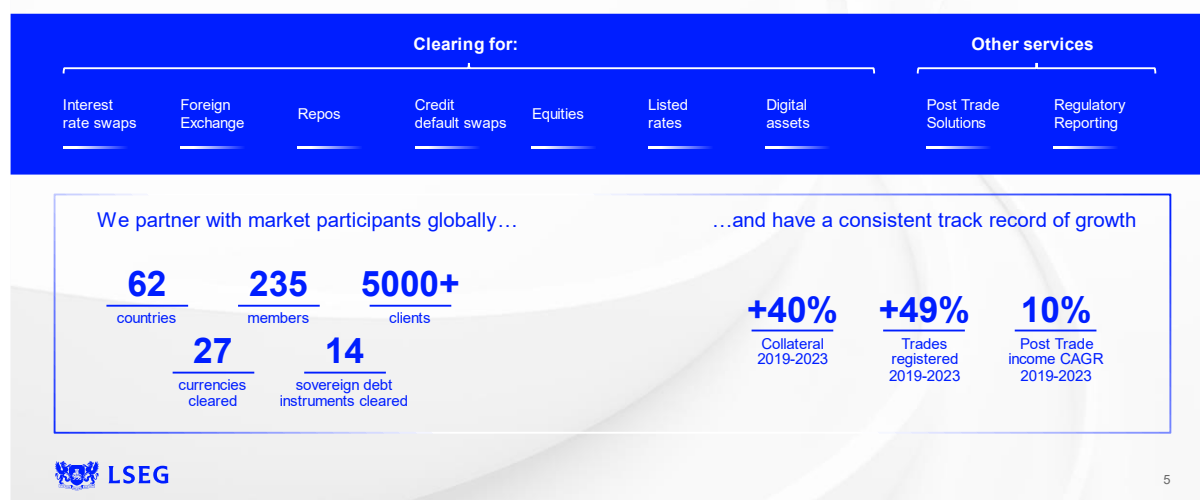
Generally speaking, your exposure to a clearing house is weighted much less from a capital consumption standpoint relative to something where you have an exposure to a bilateral

counterparty. So you're getting reduction and netting in margin, but you're also having the, if you will, the footprint in your capital or your balance sheet that your trading is taking up, is reducing by facing a clearing house.

So as a headline, a unit of risk in a clearing house is always going to be more capital or balance sheet efficient relative to something bilateral. That said, clearing isn't the answer for everything which we'll come onto a little bit later on.

## LCH – A global clearing house

We offer clearing and trade management services for a diverse range of asset classes



### Daniel Maguire:

If I could now talk just a quick orientation around the clearing house and the eagle eye will notice we have a couple of clearing houses. One based in Paris, one based in London, but both are increasingly global by their nature.

And as part of a global group LSEG, we've got global customers, but most importantly we also now have much more global products and we're overseen by global regulators. So what you can see here, we are across a lot of these, if not all, most of the important asset classes from interest rates and inflation to foreign exchange, to fixed income repo, to credit to equities and so on.

And within that we are now touching customers, be them as direct clearing members or buy-side clients through a clearing member, in over 60 countries and that's growing at a pace. We have 235 members of our services directly connected to us and about 5,000, approaching 6,000 clients coming through those members. But importantly, so that's the participants.

But product-wise we also now clear in different forms in our foreign exchange, foreign exchange and interest rates, 27 different currencies, and we're also clearing 14 sovereign debts. So very global by its nature. We're meeting the customers where they are and we have a very strong track record of growth and delivery of new business initiatives, new improvements, and new products and services.

So you can see on the right-hand side there, the collateral balances, the margin, and the risk, and the management has been growing at a pace. The volume of trades and flow that we have has been growing materially and then importantly from an income standpoint, it's not just about trades and collateral. It's about growing the top line and we have a very strong track record in the last four or five years, 10%, and if you look over the last 10 years, more like 19% growth. So I guess that's a sort of 30,000-foot view of the business of LCH and it's very much part of a multi-asset class offering that we have as an overall group.

## We are the markets' partner for post trade and financial resource management

Core Financial Market Infrastructure	Post Trade Solutions (PTS)
<p>Clearing</p> <p><b>LCH</b></p> <ul style="list-style-type: none"> <li>- Counterparty risk reduction</li> <li>- Capital optimisation provided by netting</li> <li>- Safer &amp; more liquid markets</li> <li>- Default Management in times of crisis</li> </ul>	<p>Brings together highly complementary post trade services that supports trade processing, margining, settlement, optimisation and risk management</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>acadia</b></p> <p>Default Management in times of crisis</p> </div> <div style="text-align: center;"> <p><b>QUANTILE</b></p> <p>Financial resource optimisation</p> </div> </div>
<p>Reporting</p> <p><b>REGULATORY REPORTING<sup>1</sup></b></p> <ul style="list-style-type: none"> <li>- EMIR &amp; MiFIR Regulatory reporting</li> <li>- Reporting and reconciliation solutions</li> </ul>	
<b>Highly regulated, systemically important services</b>	<b>Less regulated, new and developing services</b>



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### Daniel Maguire:

If I zoom in a little bit and bring it into more detail, let's look at what we sort of, how we think about the business maybe at 10,000 feet. On the one hand, we have what I refer to as core financial market infrastructure. FMI as I'll refer to it going forward. Core FMI, that's really the clearing business and the regulatory reporting. I've touched quite a lot on what that is, but it's critical market infrastructure, long-term partner.

As you'll probably be aware, a lot of it was previously owned by the members, the customers who then over time sold down their share and brought that into LSEG, but it's massively reducing your market risk, it's improving liquidity through the clearing side, and it's also really importantly leading industry through many times of crisis, be them default, more on that a little bit later, or in just more sort volatile markets and environments that we've had to live in and increasingly are happening on more regular occurrence than the past.

But on the right-hand side, what I'd refer to is not 'not' regulated, but less regulated, new developing services. We took a view a number of years ago that clearing, whilst we're very fond and enjoy clearing, there's much more route that we can turn our hand to and maybe clearing isn't the answer for every product in every asset class.

So over the last number of years, we've been building out in conjunction with our customers in a similar operating model with the industry, building out and acquiring a few businesses and integrating those that are mentioned here, Acadia and Quantile, to build out these complementary Post Trade services really for what I'd refer to as the bilateral, so the non-cleared market. But in a similar vein, looking at trade processing, margin, settlement, and capital, and risk optimisation for the customer.

So really taking all of our wherewithal, all of our experience, and our heritage, and our background in derivatives and securities for clearing, but really applying that across into the bilateral or the uncleared world via Post Trade Solutions. And ultimately whilst not regulated, the more important these services become, the more they'll become a node in the marketplace. Perhaps over time the more highly regulated they will become as well, much the same as clearing houses being important nodes in the industry.



So that's kind of roughly how we sort of split it. Core financial market infrastructure and then Post Trade Solutions.

## We operate systemically critical market infrastructure



 LSEG \*On an open access basis

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### Daniel Maguire:

What does it mean to operate systemically critical financial market infrastructure?

It's hard to sort of really draw a picture that brings that to life, but what we intend to do here is just give you a sort of a very high-level picture of our connectivity globally across the market. We are convening market participants. Clients I refer to just to give some of the nomenclature, that's buy-side clients, asset managers, hedge funds, pension funds, insurance funds, and the like. Clearing brokers, a clearing arm of the major banks out there who refer to as members.

Clearing brokers are the avenue, the broker who is bringing the clients into the clearing house and then members, really the dealers or the bank side on the house side of the various different banks.

So a large constellation of people in that, but also we have a lot of connectivity to other market infrastructure providers as well. Trading venues, exchanges, multilateral trading facilities, custodians and settlement depositories and the like. So really sitting in the middle of that, hence the name central counterparty.

But in addition, on the left-hand side as you look at it, industry trade groups, we work very closely with the industry at large, be it the ISDA or the FIA group, amongst many others as well. Too many to mention.

And similarly with the position and the criticality of what we do, we find ourselves somewhat in the media and the press. So we embrace that as well and then finally, and probably really importantly, a convener around regulatory policy makers and central bank. Running these businesses is a highly-regulated business.

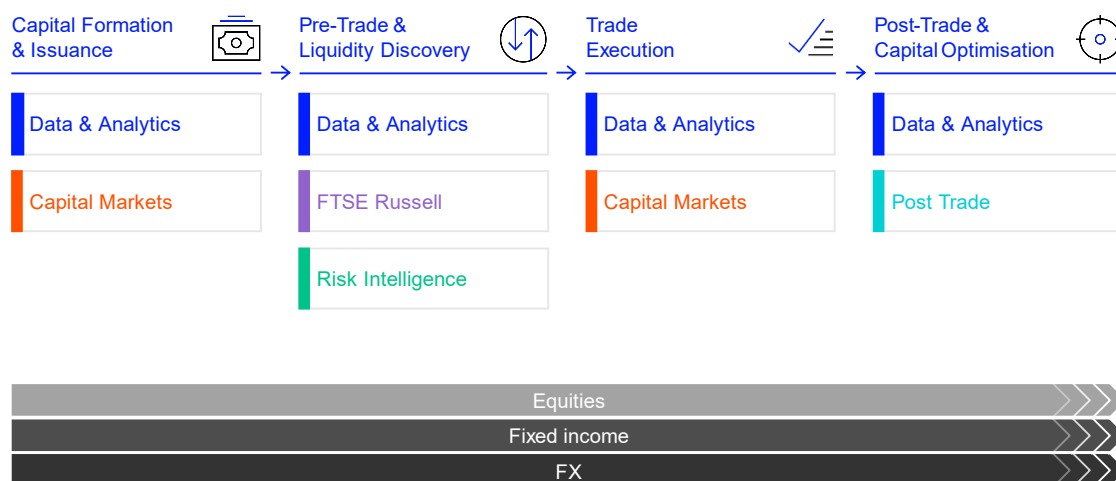
However in addition to running these things, we're also very much early stage in the formation of policy as we're looking at various different rollouts of regulation or policies that are going to be rolled out across the globe or in different jurisdictions. So very heavily

involved with that and I think final points on this slide before we move on, yes, we're a convener or a thought leader or an innovator.

And then when you think about the person who we're speaking to in a lot of these firms and a lot of the customers, it's the heads of trading. It's the heads of resource management. It's the heads of treasury, CBA, or various firms or bank resource management. So I just think it's important to show you this isn't really just a Post Trade thing. This is really our customer base

and our relationships are really at the front end of things, the trading and the P&L owners within the various organisations who are customers.

Post Trade's offering is global and multi -asset class, and we are increasingly collaborating across the Group



**Daniel Maguire:**

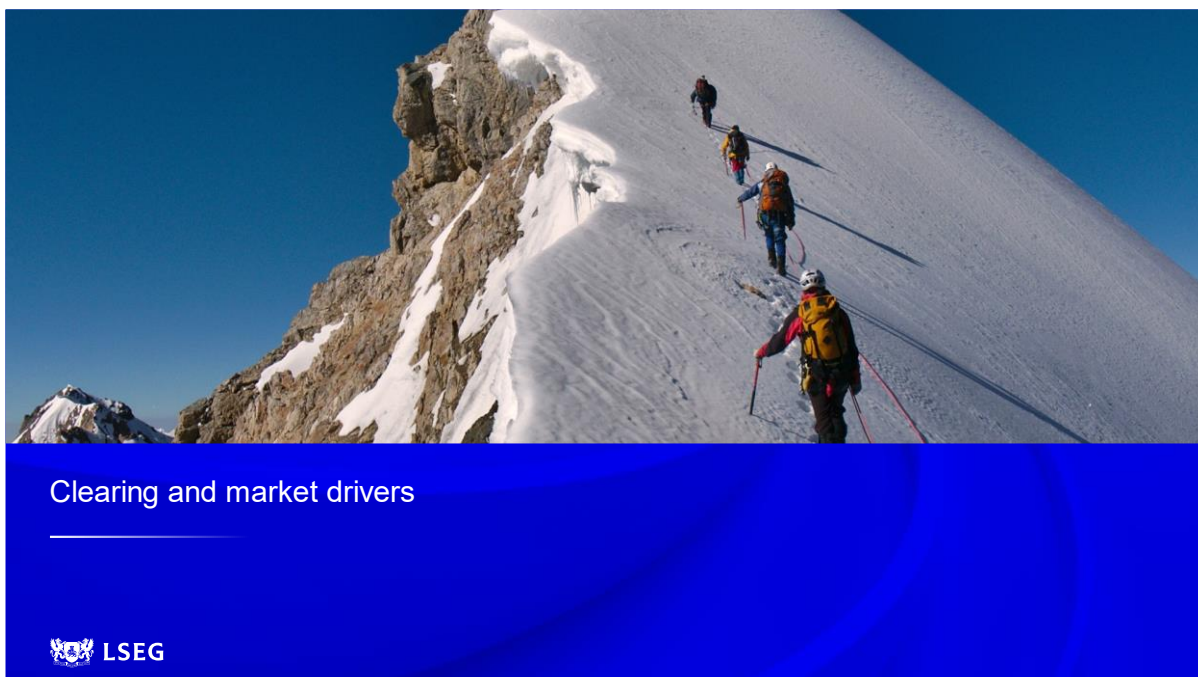
If I try and put this in the context of the overall group, the group LSEG, what you can see is we touch in a lot of different areas and generally most people will imagine Post Trade comes at the back end of this.

Now that's true to a point, but post trade and capital optimisation is something that happens pre, at, and post-trade. So perhaps if I was to redraw this but it would get too complicated, I'd be saying that Post Trade really is across this spectrum of pre-trade execution, post trade, and why is that?

When you are putting a trade on, before you put a trade on, you need to understand where or if it's going to be cleared. And before you do that trade as well, you need to have pre-trade checks around credit or collateral availability, all things that are clearing house does. So in reality, you are thinking about where the trade is going to reside post trade, pre-trade, and at trade, and the economics of putting a trade in one clearing house versus another, sometimes you've seen this sort of manifest itself in something known as CCP basis.

CCP basis is something that basically shows the difference of the cost of putting a trade in one clearing house versus another, and that's then represented in the actual execution price of a trade. So probably too much detail, but fundamentally where you put the trade post-trade will have a material impact on pre and at trade in terms of how that trade is priced and the bid offer around that trade.

And I guess what you can see in all of this, I've mentioned the global and the multi-asset class at the bottom, but what we're really doing is linking up with all the different elements of the group here and we'll have some more detail a little bit later on how we do that. But fundamentally this Post Trade business is approaching about 15% of the revenue, 15% of the EBITDA of the group, and that's been growing nicely over the last few years.



## Clearing and market drivers

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### **Daniel Maguire:**

In the next section, I'm going to take you back a little bit to some more first principles.

Some of you will know this, but I'm conscious there are people who are a little bit newer to the story. So let me just give a little bit more context around where we've come from probably in the last sort of 15 years.

## An ever-changing regulatory environment is pushing market participants to seek greater capital efficiency

2008		2024							
<b>Market events &amp; regulation</b>	Global Financial Crisis • Bear Stearns Collapse • Lehman Bros. Default • MF Global Default	G20 Commitments	Dodd-Frank Reg. Reform	EMIR Reg. Reform	MiFIR/MiFID	Basel II/III	Uncleared Margin Rules (UMR)	Brexit – Proposed location policy	Global Capital reforms – CEM to SACCR; G-SIB, Leverage Ratio
<b>Consequences</b>	Mandatory clearing of OTC rates and credit to buy-side and sell-side		~\$715tn OTC notional outstanding <sup>(1)</sup>		Regulation brings Acadia, Quantile and SwapAgent to market		Increasing balance sheet pressure focuses focus on collateral optimisation		~\$4.3tn of capital addressable by PTS <sup>(2)</sup>
<b>Financial implication</b>	Capital efficiency			Counterparty credit risk			Balance sheet efficiency		
<b>Clearing benefit</b>	<ul style="list-style-type: none"> <li>✓ Multilateral Clearing</li> <li>✓ Centralised margin posting</li> <li>✓ Margin optimised</li> </ul>			<ul style="list-style-type: none"> <li>✓ Multilateral Netting</li> <li>✓ Lower Requirement</li> </ul>			<ul style="list-style-type: none"> <li>✓ Multilateral Netting &amp; Compression</li> <li>✓ Multilateral Netting</li> </ul>		



LSEG

(1) As at June 2023, 90% of total derivatives  
(2) RIA estimate 2022 - c.10% of typical Tier 1 global bank trade lifecycle expense relating to OTC derivatives is typically Operations expense (MOO) B  
Source: LSEG Competitive Intelligence

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### Daniel Maguire:

So sometimes there is a bit of a misnomer that a clearing business is 100% regulatory-driven. I'm not going to deny there is some regulatory tailwinds around this, but actually if you look at the last 10 years, a lot of the drivers have been much more about a drive for efficiency in capital and in balance sheet. So let me just talk you through this a little second.

In 2008, a little bit of a watershed moment, Lehman Brothers, Bear Stearns, and then subsequently we've had other defaults as well. But then we had the G20 met in a very seminal moment, Pittsburgh September 2009, and they made the decision and the decree that OTC derivatives, over-the-counter derivatives must be collateralised, A, and B, some of those not just collateralised, they must be cleared. And that was really the starting point of all these uncleared margin rules and clearing mandates. They took various forms in the US, Dodd-Frank regulatory reform in 2010. EMIR reform subsequently and other parts around the world as well, and plus MiFIR and now MiFiD. But we saw four, five, six currencies in interest rates and credit being forced to be mandated to clear for certain shapes and sizes of customers.

But as I referred to earlier, there are 27 currencies cleared. There are 14 debts cleared. There we are, we are way beyond regulatory mandate here and what is really driving that. On the second half, we refer to Basel II and III, Uncleared Margin Rules and the like, and at the far end, things like counterparty exposure methods to the standard approach to counterparty credit, G-SIB and leverage ratio, lots of acronyms. Headline, derivatives are consuming, OTC derivatives are consuming capital from a bank's perspective.

And if a customer trades with them, a buy-side customer, they are still leaving an imprint on the balance sheet and capital consumption of that bank. So these derivatives, not only are some of them mandated, but in addition they are leaving an imprint on the balance sheet and capital consumption of a lot of the major firms. So there's been a real push to find ways to make those more efficient. Clearing is clearly one of the answers to that, but that is really where we started to move into other spaces as well with Acadia, Quantile, and SwapAgent. We're saying maybe we can't clear everything for good liquidity or risk reasons, but what we can do is bring a lot of the tools and capabilities we've developed in the derivatives and

securities markets and clearing, and start to apply those in the bilateral space, and reduce the pressure on the balance sheet for a lot of the firms, and also bring a lot more efficiency around their uncleared positions as well that have started to attract margin.

So headline there's definitely been some tailwinds over the course of 2008, maybe through 2015-16, and perhaps a little bit later. But in the last five to six years, if not longer, we've seen a real push more from a capital and margin standpoint which are pushing people more and more towards the kind of tools that we've been building and creating both in clearing and in Post Trade Solutions.

## Stability & resilience – protecting our members while optimising their capital needs

We have a strong track record...	...and a robust default management process
Very <b>strong operational resiliency</b> and <b>service availability</b>	<b>1</b> 'Defaulter pays' model: defaulter's margin and Default Funds used prior to the use of other capital
<b>Global scale, access and support</b> focused on clients' <b>operational risk profile</b>	<b>2</b> Clearing service line <b>default funds segregated</b> from other LCH services
Financial risk management is our <b>core competence</b>	<b>3</b> All the <b>defaulters' assets will be utilised</b> across all services first
<b>Cyber resilience</b> is a priority	<b>4</b> LCH will then use its own capital <b>'skin-in-the-game'</b> before utilising non -defaulting members' capital
	<b>5</b> LCH can call for <b>(limited) additional contributions</b> should the funded resources be exhausted
	<b>6</b> When all resources exhausted, the <b>loss distribution phase</b> follows, then in extremis by service closure

LCH has never used resources other than those belonging to the defaulting party when dealing with a market event



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### Daniel Maguire:

At the heart of what we do though and what are you buying, what is the product, we try and sort of make it many things to many people, but fundamentally you're buying default protection. You're buying counterparty credit risk reduction.

But in order to do that and when you start to bring all of these elements into a clearing house and these nodes, and this is why they've become somewhat caught in the public eye and the political eye sometimes, you're putting a very heavy reliance on these nodes in the industry and the marketplace called clearing houses. So they have to be uber strong, uber resilient, and uber available or hyper available all the time. So we've had to build a super resilience capability in the organisation to make sure that we can scale and grow as the businesses and the customers grow 'cause nobody expects a clearing house not to be working. It has to work every second, every minute of every day and it has to have scale, it has to be global, and has to be able to support the clients wherever they are.

But one of the fundamental elements of this that has become increasingly marginalised in conversation is financial risk management. We spend a lot of time with our regulators, with our customers, with policy makers talking about non-financial risk because of the importance of these nodes. But financial risk management is absolutely at the core.

And we are the gold standard. Credit risk, market risk, liquidity risk run through our veins every day. We have to be on top of our game every single day and how does that really show up? In these kind of black swan type events when we see defaults or major market stresses, we have to be metronomic. We have to be on our game every minute, every second of every day, and we've had a number of defaults over the course of our history.

But fundamentally what lies underneath this is this gold standard risk model which we can apply both to cleared and increasingly to uncleared as well.

So just quickly going through the default process and you know as investors and analysts think about this when they ask us questions around what capital do you have at risk? Well, the first thing to say is we are super well-insulated. We have margin, initial margin which is the amount we charge for every contract we clear. We do P&L every day. We call that variation margin, and then what we have is a defaulters, sorry, a default fund where we do



stress levels and we calculate an amount, and we hold the default fund. What is that doing? It's protecting in the eventuality of a default. So our default waterfall, as it's often known, is a defaulter pays model. So what we're saying here is if someone defaults, Lehman Brother being one of the more famous ones, the expectation and the intention is that they will pay for their own demise through the contribution of the financial resources that they've given to us as a clearing house.

And in our history since 1888 where we've had more than a dozen defaults, we have never used anything other than the resources of the defaulting party to clean up the defaults and get back to a stable market environment.

We have different default funds for different services. We also have some of our own skin in the game as well and that sort of incentivises us to keep the highest upon high standards from a risk standpoint. So we like to think of ourselves and we are encouraged by our customers who would ultimately mutualise to make sure that our risk standards are at the highest level. If there is competition on margin or competition on risk, it's competition on being at the highest standard, not at the lowest standard.



**Daniel Maguire:**

So as I said, we've never used any resources other than those of a defaulter. A few events here just to give you some sort of context of our track record. I mentioned Lehman Brothers, I was personally involved in closing a lot of that portfolio out, but also it's not always about default. It's about being sort of steadfast and metronomic during periods of high turbulence, market dislocation as well.

We've seen a lot happening as the central banks opened up their purses during 2020 and COVID, 2016. A lot of market volatility around that and subsequently a lot of policy involvement around where things are going to be cleared. We've had obviously the ongoing invasion of Russia and Ukraine. We saw things in the US last year as well with Silicon Valley Bank and the regional bank crisis.

And then on top of all of this and I think this, for me, was a real coming of age for us as a business, LIBOR transition. As a result of all those things since 2008, we have found ourselves being the central node in the derivatives market. We have a large percentage of the LIBOR index wholesale market sitting with us. Working closely with industry associations, customers, and the like, we took a leadership position in helping the transition from LIBOR to the various different alternative reference rates that came about, and that really was a real major point for us where historically we clear what the market trades. Historically we worked with the market. This is where we took the leadership position to help the market move from an old world to a new world and this was lots of precision, atom splitting in some ways, but it really put us at the forefront of the industry. Said hang on a minute, we can help lead the industry. We have an opinion. We have a role to play here and that's what we've continued to lead off with into our new initiatives as well. So in some ways encouraged us to be a little bolder in how we think about things and how we think about ourselves as well.

But bottom line, our role in all market events, be them default, be them turbulence, be them market dislocation, it's not to have an opinion on them. It's to be steadfast, metronomic, and do exactly what's expected of us and not have interference, and changes in margin models, and introduce surprises into a system that is, at the time, somewhat fragile.

## Key market drivers

Market trends	Policy	Innovation
<p>Economic activity/sophistication</p> <ul style="list-style-type: none"> <li>- Increasing debt issuance in mature markets raises demand for repos</li> <li>- Growing financial sophistication, e.g. OTC derivatives in Asia</li> </ul> <p>Market volatility</p> <ul style="list-style-type: none"> <li>- Volatility -induced volume driven by economic sentiment, geopolitics etc</li> </ul>	<p>Governmental mandates / regulation</p> <ul style="list-style-type: none"> <li>- Mandated Clearing e.g. UST Clearing</li> <li>- Regulatory Updates e.g. EMIR 3</li> </ul> <p>Central Bank activity</p> <ul style="list-style-type: none"> <li>- Interest rate policy and differentials between markets drive activity</li> </ul>	<p>New products</p> <ul style="list-style-type: none"> <li>- Attracting existing bilateral flow into a cleared model...</li> <li>- ...or servicing the bilateral space with capital / liquidity efficiency solutions</li> </ul> <p>New markets</p> <ul style="list-style-type: none"> <li>- e.g. FMX launching a US Treasury service</li> </ul>

Desire for ever increasing optimisation of scarce resources..

...for which we are constantly investing and adapting to serve



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### Daniel Maguire:

I'll be handing to Isabelle shortly, but I just want to finish on this section what are the sort of key market drivers? People often ask me about cyclical versus secular trends around this business. Are you just a regulated business? Are you just a volatility-driven business? And my answer to that is absolutely not. They are good tailwinds, but there are different fundamentals that really drive this business and its performance and its growth.

Break it into three areas. One is market trends, one is policy and regulation, and then the final one is creating, and innovating, and building new things.

So as you take a step back, first and foremost, we see ever-growing, and ever increasing the amount of debt issuance by governments and corporates for that matter which is raising demand for repos, but also raising demand for swaps and interest rate hedges and inflation hedges. So fundamentally the input into a lot of the derivatives market is issuance. And we're seeing more and more of this as developed governments are issuing more and more of this.

But we're also seeing deepening financial markets in a lot of markets such as Asia, as an example, as their markets evolve and develop even further, and being much more pervasive with the derivatives market as well. So we're seeing growth both in some of the more developed markets historically, but also those economies which are deepening their financial markets such as Asia, really growing and creating an ever-growing and somewhat insatiable demand for derivatives as well. So there's fundamentals that are really driving this in the first instance. As I mentioned, of course, there's market volatility around this and we're not here to make predictions whether markets go up or markets go down. Volatility is generally good for our business, but lots of things can drive that. It can be economic sentiment. It can be central bank rate moves. It can be geopolitics. It can be more than that. So we will see intermittent spikes in things which drive volume and drive flow, but fundamentally it's really the underlying economic activity that drives it.

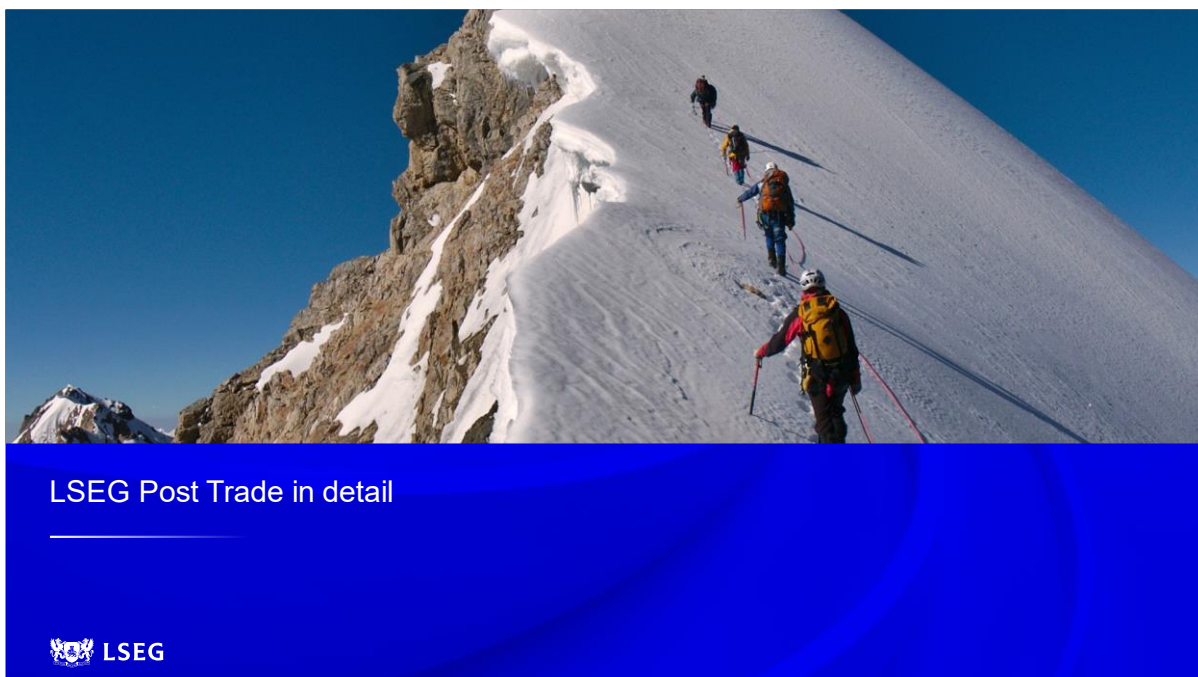
There's of course policy and regulation and I think we look at it through two or three different lenses. One is there's been mandates, that's pretty straightforward, but there are also capital rules that come in as well which have been another sort of push in our direction. And as I've

just mentioned, you could put it in market trends or policy, but really central bank activity as well. So we are a recipient of those elements and we have a business that is very much exposed to those, but in a sort of all-weather way, be it market up, market down, risk on, risk off. You generally see people expressing that through interest rates, through inflation, through debt issuance, or through foreign exchange.

And then finally, we aren't a business that sits still and waits for things to come to us. We are constantly investing in our underlying business and our products, Isabelle's going to talk a little bit more about that in a second, but talking some of the different things. Moving into the bilateral flow away from cleared, a big departure and a big innovation, but also there's a lot of improvements we're constantly doing to make our offering more and more attractive to our customers, and fundamentally making it more and more valuable and more efficient for them as well. And we'll talk about this in a second, launching a new US futures service which just went live recently with FMX.

So you've really seen a drive from our customers for more optimisation of their financial resources, their scarce resources, I think that is a fundamental trend that's not going to go away anytime soon, if ever. And we are constantly investing and adapting to make sure that whatever the economic policy is or the economic activity is, we're building products and services that are going to capture that and bring real value to our customers.

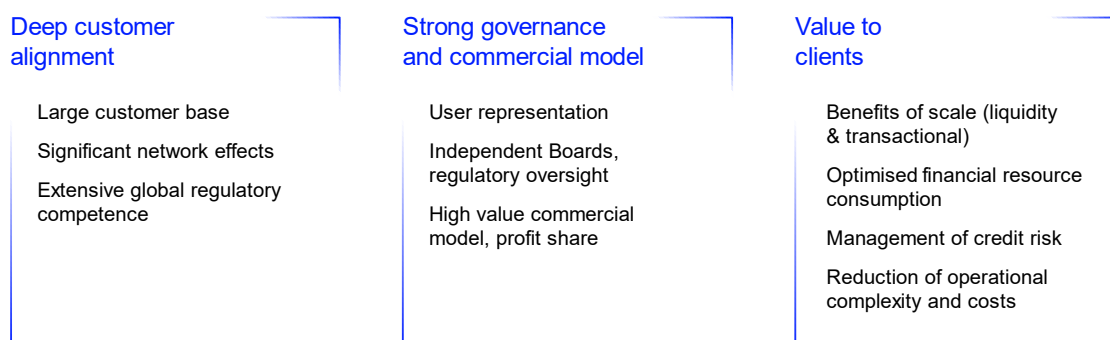
So with that, I will hit pause for now. I'll hand over to Isabelle who's going to talk you through some of the various businesses we have and the opportunities, market position, and track record, Isabelle.



**Daniel Maguire:**

So with that, I will hit pause for now. I'll hand over to Isabelle who's going to talk you through some of the various businesses we have and the opportunities, market position, and track record, Isabelle.

## A differentiated service through deep industry expertise and a partnership model



**A complete, flexible post trade offering, with proven domain expertise and a commitment to working in partnership with our customers at our very core**



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### Isabelle Girolami:

Thanks a lot, Dan. Hello, everyone, from New York where I arrived last night. Really excited to be here, and be with the team, and meeting some of our biggest members and clients.

You've heard from Dan about clearing and the role it plays and the market drivers. I thought that on this slide, I would explain to you why LCH, we are a CCP, but why us? What is our right to win?

And the first one is around that deep partnership with the market. It's very much part of our ethos. It's also part of the way we share revenues with some of the market participants and I'll come back to that in a second. And what that does and this strong and deep partnership does is to lead to procreation, and co-design. We do not put products on the shelves and then just push the products from the shelves. We co-design with the market participants what is going to work for them. And it's that that creates the network effect and the adoption much quicker than you would see in other clearing houses. And so that's a very important one for us.

The second one is the fact, and Dan alluded to that, that we are very safe and we're very trusted. We embrace our regulators. So yes, it's a burden, but one, frankly it's a barrier to entry and also we embrace them because we want to work with them and we want to make the market safer. So I think that's a really important point for us and I would say that's the second sort of big bucket.

And the third one is, that I wanted to mention is that we also deliver value to our clients because we are a global clearing house. We are the only global clearing house and there's no other one out there. And we deliver margin efficiency, as Dan said, in what he mentioned before. We help reduce the pressure of operational complexity for our members and their clients.

We also create, for some of the products that we launch, a bit of competitive pressure which the market likes because it allows them to have more pricing power on some of the other providers away from us. So we can move to the next slide.

## We've adapted to meet our customers' evolving needs



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### Isabelle Girolami:

I'm going to be slightly quicker in order to be able to get to the Q&A because I saw some excellent questions in there.

On this slide, you've gone through with Dan the sort of timeline of what's happened and the market events that have changed the landscape, so I'm not going to go over those again. I just wanted to say that we've always adapted. We've always adapted and more than adapted... We've had, over the years, I would say the foresight to really come early with what we think the market will need to adapt to some of the trends that we're seeing emerging.

And that goes back to what I said in the previous slide in terms of the co-design and that ethos of partnership with the market. That allows us to know, because we are in contact with them all the time and we work on things with them, what they will require as they see those changes happening in the market.

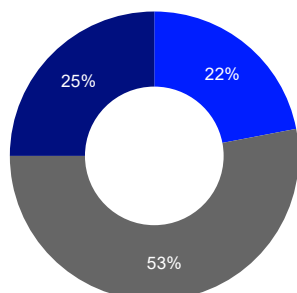
And it's certainly the case for CDSClear. It's certainly the case for ForexClear. It's the case for listed rates as well. You know they're very happy to introduce a bit of competitive pressure in the system and for ForexClear, it was clearly coming from a need to adapt to some new regulations that were going to require more capital for them, especially with SA-CCR, but also UMR on the buy-side. So we are anticipating thanks to our proximity to the market. That's what I would say and summarise.

## Our economic model

### Revenue

#### Collateral

- Customers post collateral to cover margins: either cash or non-cash assets
- Fixed handling fee for non-cash collateral
- For cash collateral, we charge a handling fee and we secure the cash in short-term, ultra-low-risk instruments



#### Recurring

- Members enjoy an "all you can eat" clearing model for the following:
  - Swaps
  - FX
  - CDS
- Fees are fixed and follow a tiered structure, based on expected volume

#### Transactional

- Clients must clear via a member bank
- They pay a per-transaction fee which is passed to LCH
- For repos and equities, members also pay by transaction

### Our cost base

#### Profit share

- A group of founding members receive a minority share of LCH profits
- This is paid away via cost of sales

#### Regulatory compliance

- Oversight obligations
- Regulatory change

#### Product and Risk

#### Tech and Ops



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## Isabelle Girolami:

I wanted to show you what our economic model was. In relatively simple terms, we have nearly a quarter of revenues that comes from members fees and it's a bit like a subscription model. So you have several tiers. You can subscribe to a tier which allows you to do a certain volume. You can subscribe to a lower tier which will cap the volume at a lower number, and you can start with one and then move up the ladder to a higher tier as you see that your business is increasing. So that's on the members' side.

We have another way of making money which is on the collateral side. We charge a collateral fee, but we also make money from the collateral that we collect and we behave in that, we behave a little bit like a, for those of you who are really well versed in banking, it's a little bit like a central bank's reserve management unit. So we make money, but with a lot of constraints because we have to remain liquid at every step of the way, at every point in time. So we don't take undue risk. We don't invest in long-dated instruments. We don't take naked counterparty risk. A lot of what we do will be in the form of reverse repos that are going to be relatively short-term.

But just for you to understand, there's a link between of course, the way that we manage that collateral and the strategy that we have in the clearing house. So not only it's linked to the services of course, but it's also when we decide to accept a new non-cash, a new security, for example, in the clearing house, we think about what would work for the market and what works with the areas of developments that we want to push for, again, pushed by the market participants.

I can give you an example of that. So if we want to do more work because the market is asking us to with the European pension funds, we are going to be thinking about onboarding some securities that are coming from northern Europe which are securities that those funds really value in terms of posting. If we want to do more on the Asian side, one of the things that we are working on is to onboard some specific government bonds that are government bonds, that are Asian government bonds, again, in order to link up with our strategy so everything is connected.



The other way we make money, and half of it as you can see, is from clients. The clients that Dan was explaining are coming through and via the clearing brokers into the clearing house, and there it's much more a sort of pay-as-you-go transactional fee.

On the cost side, so if I forget about the revenue side for a second, on the cost side, we have a profit share with a group of founding members of LCH and we don't have that for all the asset classes, but we have that for Swaps, we have that for FX, and we have that for CDSs. And it served us really well because it helped us cement that partnership with the members and with the market that I've mentioned a few times, and it served them well as well because it's been profitable for them over the years. We also have cost, of course, like you would expect in a business like ours in risk, in technology, in compliance, in operations. I would say that the majority of the costs that we have and the majority of the teams that we have are really risk, and technology, and operations teams. Those are the teams that are the teams that at the heart of the CPP, are running the CCP.

Our EBITDA margin is around 50% and we think it's pretty healthy. And that 50% is after deduction of the profit share that I mentioned before.

## SwapClear – the global leader in OTC interest rate swaps clearing

Unrivalled liquidity	SwapClear is the largest OTC interest rate swap clearing service by gross notional cleared
Broad product coverage	SwapClear clears 95 percent of all “vanilla” OTC interest rate swap products, in 27 currencies and long-term tenors
A global presence	Provide clearing from the Asian open to the US close, with a presence on three continents
Real-world cost savings	We enable our clients to offset risk, reduce costs and lower collateral requirements
Rigorous risk management	SwapClear is the unquestioned leader in CCP risk management and the derivatives community has adopted many of our risk management standards



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### Isabelle Girolami:

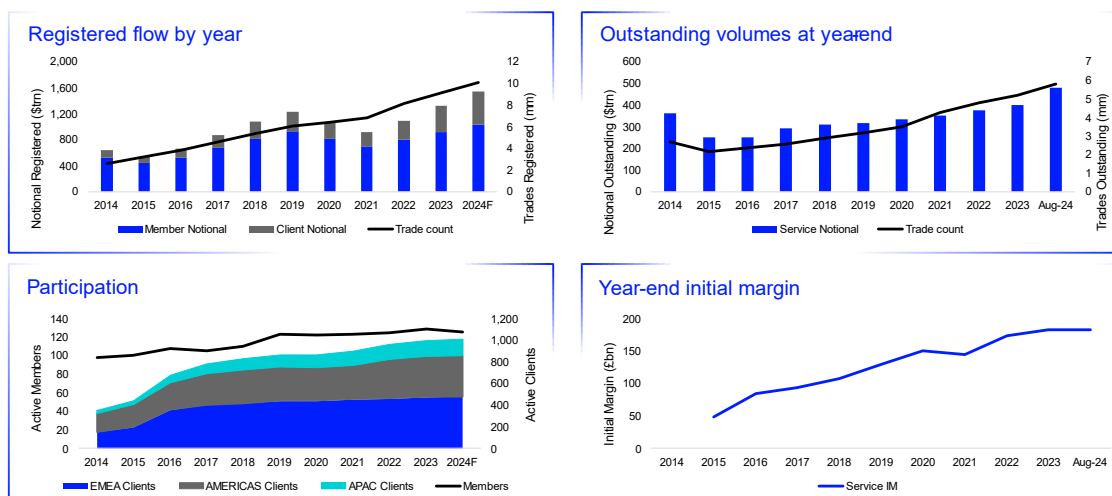
Now if we go business by business, so let's start with the biggest of our businesses which is SwapClear. It's the longest established, and the business and well, the longest established, I don't know Dan, maybe equities sort of predates it or commodities if we go back to the 1800s. But the fact is that it is our biggest business without a doubt.

And the customers come to us because of its breadth, because of its global reach, because of the cost savings through the savings from a margin efficiency perspective, but also because of peace of mind and the sort of predictability that they have when they deal with us with a service which is so large and so well-run. I can say hand on heart that we are the gold standard of the market. We clear 95% of all OTC IRS vanilla products in 27 currencies and all tenors. The only exception is yen because we do not have the license to clear onshore yen swaps. And so we have a market share in yen which is the international market share and which is around 47-48%.

And again, we provide deep pools of liquidity. We have a significant portfolio margining opportunities. But we also lead, and again, Dan said that before, but in risk management standards. And when you look at all the sort of market events that have happened, the market really values that, because the last thing you want when you're facing a CCP is a CCP which is a bit tricky when you have market events that are coming your way and we are exactly the reverse.

I mean, we don't do ad-hoc margin calls because we manage margin in anticipation of shocks and that has served us and the market very well in the last few years. We are predictable.

## SwapClear – consistent growth over the long term



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### Isabelle Girolami:

So now moving on to growth for SwapClear. So SwapClear has grown a lot and you might think that because it's very large, it probably doesn't have that much potential for growth and you'd be wrong.

It has a lot of potential for growth and it has a lot of potential for growth for various reasons. One, because I think it's fair to say that it's a business which is almost immune to whether the environment is the low rate or a high item environment, right? So unlike the banks that, as you know, will be making more money when the rates are higher because of the NIMs, SwapClear is a business that sustains a certain amount of activity when there's volatility, whether the volatility is coming because the rates are going up or going down, doesn't really matter. And I think that's something which is really important to understand for this business.

And the level of volatility that we see now we believe is going to be sustained for a lot of different reasons, and we can go into that. Some of them being geopolitical, but we do believe that it's going to be sustained.

The other reason why it's going to continue to grow is that there's some very clearly outlined element of regional developments related to SwapClear. So as I told you, I'm in New York. We are launching and we have launched FMX, the listed rates business that connects to FMX, and we're quite excited about that. That's an opportunity for growth for that business. There's an opportunity for growth which has started to materialise on the Asian side with the deepening of financial markets in Asia and you have some of the financial institutions that were clients, that are becoming members. You have an overall growth of clearing in the region, partly pushed by in some cases a later implementation of some global regulations, but also by a maturing of some of those markets. And it's across the region definite potential for growth that we started to see.

The other one is on the EU side. We'll take the question when it comes. I saw there was one around EMIR and the impact of EMIR. The reality for us is that we continue to see growth, very significant growth including on the EU side to accompany the growth of Europe as a region, and we continue to capture that growth.

But I just wanted to point out on that graph because I haven't presented the graph, just the IM which has grown very significantly over the last few years and which not only sort of exemplifies the growth, but it so creates even more of an anchor for the growth to attach itself to.

## ForexClear – a significant market opportunity

### Foreign exchange markets are shifting to a cleared environment

- UMR incentivises NDF and options clearing
- SA-CCR is increasing incentives to clear FX trades with term, e.g. forwards and swaps
- ForexClear delivers unmatched capital and operational efficiencies

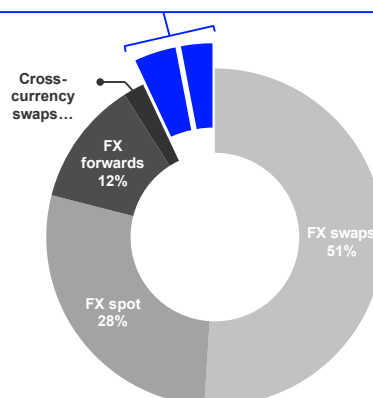
### We clear a range of FX products...

- Non-Deliverable Forwards: significant portion of the dealer-to-dealer NDF market now cleared
- FX Options: Q1 2024 was 5th record quarter in a row since Q1 2023
- FX Spot / Forwards

### ...and offer attractive capital optimisation solutions

- Multilateral netting: reducing portfolio exposure and margin requirements
- SmartClearing: reducing counterparty RWA capital usage across all counterparties

Currently, only 7% of the FX transactions (NDFs and FX Options) fall under regulation that incentivises clearing. But this is changing...



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## Isabelle Girolami:

On this slide, I wanted to start to talk about ForexClear and I realised that we maybe have talked a little bit too much, so I'm going to try to go a bit fast. So ForexClear is of course much smaller than SwapClear, huge potential for growth. It's delivering around double digit growth every year now and in terms of the potential, this is a gigantic asset class. And so the potential for clearing is quite significant in terms of a TAM.

It's not a business where we have real competition in the form of another clearing house. Our competitors are the prime brokers in FX and it's convincing the marketplace of all the advantages of clearing. And for that, the more they're clear in terms of the sort of sub asset classes in FX, the more benefits they see from a margin efficiency standpoint. So the strategy in FX is very clear and very well-outlined.

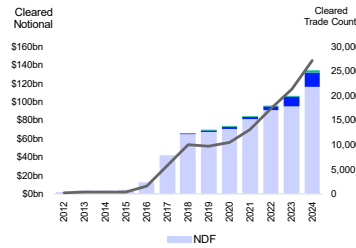
I mean we basically have to build liquidity first. So we call it, first of all, FX Options activation, for example, which is one of those examples. It's all the members that we have that are connected for them to really clear as much as they can from an option perspective. The second one is to get as many banks as possible to onboard to the service. Again, because they are the ones who are going to be the liquidity providers in the service across the various asset classes. Then it's to develop smart clearing and NDF matching, and we're starting to onboard some significant names that you will see over the next couple of weeks on the Asian side to NDF matching and to clearing, which is pretty exciting.

Another thing that is on the roadmap for FX is to be part of the main session of CLS. Again, really significant, it means that much more efficient for the banks to connect than having to connect to two sessions. And then it'll be to offer other CLS currencies like the Nordics. And in parallel to that, we are working on an offering of CNH deliverables so, and a solution on CNH deliverables which won't go via CLS. It will go through Hong Kong.

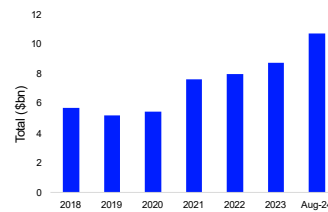
So I just gave you that as examples of a roadmap that we have for FX which is extremely well-defined and articulated, and that we track very, very clearly with quite a few sets of KPIs related to each of those initiatives.

## ForexClear – a rapidly-growing business

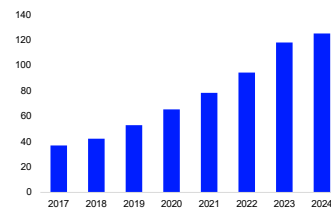
ForexClear cleared ADV



ForexClear initial margin



Total ForexClear participants



<b>~\$164tn</b>	Total notional cleared by ForexClear to date (at June 2024)	<b>\$158bn</b>	Average Daily Volume cleared by ForexClear (June 2024)	<b>16%</b>	Growth in ForexClear revenue (2017 – 2023 CAGR)
<b>~\$2.2tn</b>	Total client cleared by ForexClear to date (as at June 2024)	<b>48%</b>	Growth in client volumes (June 2024 v June 2023)	<b>43</b>	Live Entities clearing through 39 Members, 22 Groups (as at June 2024)

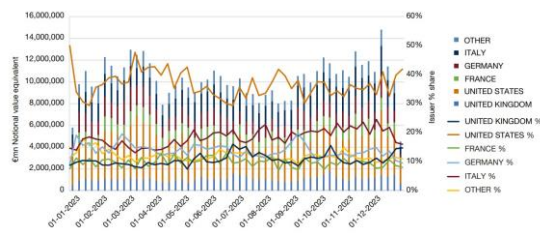


### Isabelle Girolami:

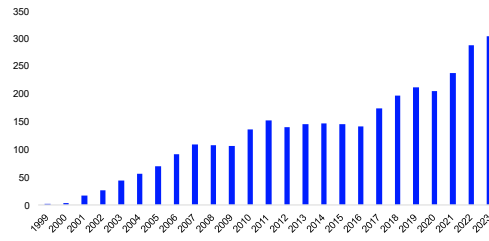
I mean, any time it's growing a little bit as a hockey stick as you can see. I mean, it has grown at a compound rate of 16% over the last six years and Asia is a very big engine of growth, of course. And there's more to come from there with the CNH deliverable initiative that we have and that we are working on. And as I mentioned before, we are working closely with CLS to make it easier for the market to clear by being part of one session as opposed to two. So that's on the FX side. Strong growth and it's an inflection point in terms of the sort of start of the hockey stick that you can see.

## RepoClear – the world's largest liquidity pool

Weekly sovereign bond issuance by issuer



Total yearly nominal (€t)



<b>~€77tn</b>	Nominal Cleared across euro debt and gilts, up 4.1% vs Q1 2024	<b>&gt;€1.2tn</b>	Daily nominal cleared across euro debt and gilts	<b>3.9tn</b>	Cash bond nominal cleared, up 86% vs Q2 2023
<b>3.7m</b>	Trade sides cleared across euro debt and gilts, up 2.4% vs previous record in Q4 2023, daily record set on 11 June 2024 with over 67k trade sides cleared				



LSEG

(1) ICA Market Practices Committee, European Secondary Bond Market Data, H2 2023

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### Isabelle Girolami:

If I move to RepoClear. RepoClear, the drivers are slightly different. I'm just going to take you away for a second from a sort of RWA driver. That's not the main driver for clearing for RepoClear. It's balance sheet efficiency. It's another scarce resource that the banks have to manage and that drives more into, that drives more of that business in RepoClear than RWA. There's also a bit of RWA optimisation, but it's mostly balance sheet optimisation.

It's a very big business for us. It's run across two entities, the French entity and the UK one. One clears euro-denominated repo and cash bonds and the other one does the same in sterling. On the UK side, we clear about 70 to 80% of the interbank market and we have no competition which means that our competition is the uncleared. On the euro side, we clear north of 90% of the interbank market and we provide deep liquidity for our members.

And again, the balance sheet optimisation is very key for our members and as you can see, and that's what we were trying to demonstrate in the graph. One of the fundamental drivers of the growth of our business will continue to be the ever-extending balance sheet of the governments across the globe and the fact that they continue to issue sovereign debt. So that won't stop, but the next frontier which is really attractive and exciting for us, is to incite the buy-side into clearing. And as we speak, we are starting to onboard significant asset managers into the service as we really develop the buy-side of that business.

## CDSClear and EquityClear - well-established market positions

### CDSClear

OTC Derivatives

#### LCH SA's global Credit Derivatives clearing

- Strong growth in EU credit clearing; competitor consolidation
- CDSClear handles indices, single names and options
- Growth in the US focused on offering a US FCM client clearing model
- Strong growth across all segments yo-y

### EquityClear

Securities & Reporting

#### LCH Ltd's pan-European clearing service for equities and ETFs

- Post Euronext exit, equities clearing now focused in LCH Ltd
- 30 Clearing Members, 20 CSDs
- 1.6bn trade side cleared in 2023
- >120 non-clearing participants
- >35 individual market segments



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### Isabelle Girolami:

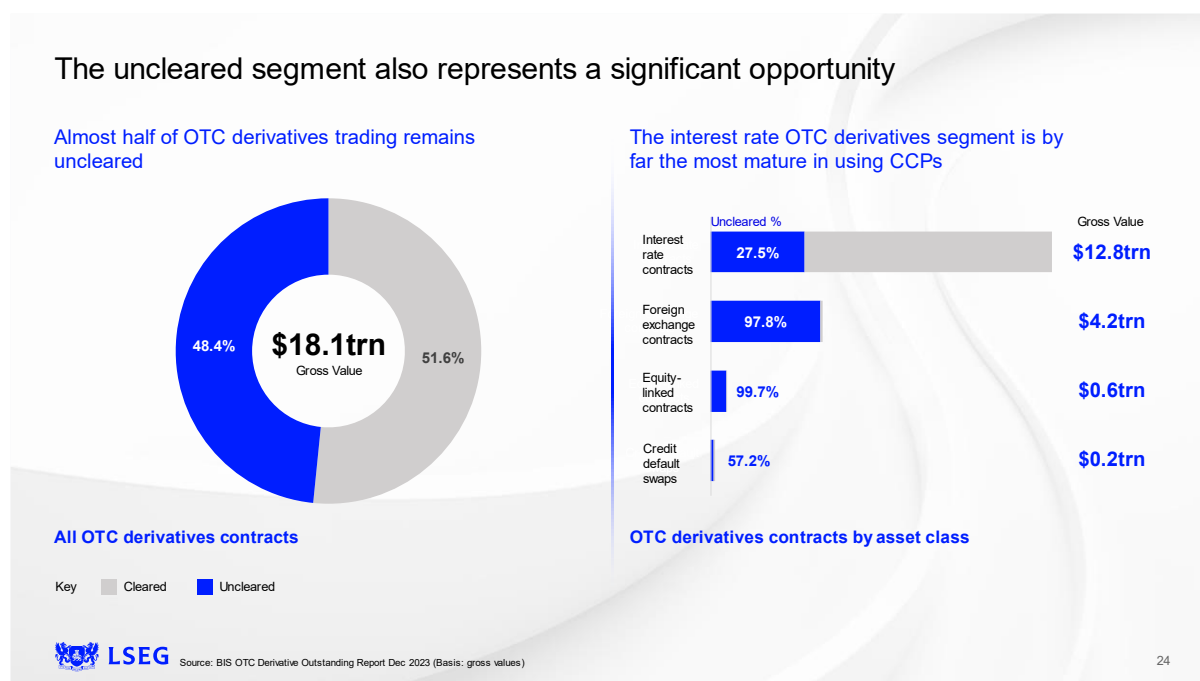
A quick word on CDSClear and equities. In CDS, we have made a huge progress on the European side and in the clearing of credit derivatives. We offer a wide range of product options. We have been so successful that we have pushed our competitor away and the main competitor has retrenched to the US. So this is a business which has grabbed market share on the European side of it in a very, very significant way over the last few years to such a point that again, and remember what I said before, what we do is not sort of self-invented. We do it because we are working with the market for the market to define what we should do next. And the market has asked us to move now CDS clearing to the US or to start CDS clearing in the US in order to create that competitive pressure for the main incumbent that they want to see so, and again, coming from the market demand.

In terms of EquityClear, I'm going to be very, very quick, you know it's been well advertised that the business that used to be in LCH SA has migrated to Euronext. I'm going to talk only about the one that remains which is the one on the UK entity side. It's a business which has potential for growth, but it's a massively competitive business. And it's probably the most competitive space of all the businesses that we operate into.

To give you an idea, in European equities, there's something like 22 CCPs that are playing a role. So they do not all do the same as the other one. I mean, there are some verticals in there, but it's a very competitive space and what we do is that we continue to work with our members to make sure that whatever we design, whatever we do next, whatever new efficiency we can think of or new underlying products, we do it with them so that we continue to anchor them on our side.

We're very committed to this business. We're not going anywhere, but it's not a space which is an easy space. I want you to be very clear about that one. I'm going to stop there for Dan to say a couple of words on uncleared before we take the questions.





**Daniel Maguire:**






Thank you, Isabelle, I'll just get straight into things. So uncleared segment, let's talk about uncleared. We've talked a lot about clearing. I think Isabelle's covered that very well and we'll have no doubt loads of questions. Why have you heard David and MAP talk around this in a few different presentations?


It's simple, but it's really important. Number one, when you look at the scope of the marketplace, cross interest rates, across foreign exchange, across equity and across credit, you can see on the slide, a large proportion is not cleared. Now there are a variety of reasons why that may be the case, but the fundamental point is we are a business, and we are a group of people with an expertise and a prominence in the derivatives, and for that matter, the security space. We take the view that we can solve quite a lot of the challenges and problems in this space. Clearing being a solution for part of it, but not necessarily for all of it. So when we talk about uncleared just to make sure on the nomenclature, I mentioned bilateral earlier. Bilateral trade, two people trading together or uncleared, they are the same thing. When people trade in a bilateral way, those trades remain uncleared. Some bilateral trades will be or unclear trades will be with collateral, some will be without. That's driven by some regulation called Uncleared Margin Rules.

So what you can see is there's still quite a portion that is not cleared on the interest rate side, but that's really predominantly moving into what I'd refer to the non-linear. So option products like swaptions, caps, collars, flaws, and perhaps cross-currency swaps. Whereas in foreign exchange, a very, very big market in gross value and transactional flow, a large portion of that isn't cleared. And why is that? There are not clearing mandates around these things. A large proportion of the foreign exchange market, as Isabelle talked about, is in spot. So it is not really shaped for clearing, but there's definitely an opportunity in forward swap options and non-deliverable that we've been talking about. So quite a shift here. Quite a lot to go at and when we speak to our customers, it's a lot of their uncleared space that really is an opportunity for us.

## Post Trade Solutions – removing inefficiencies by addressing industry pain points

**Industry tailwinds shaping post trade**

	Increased regulatory focus is driving up cost which will compel firms to be more efficient	>	 <p style="color: #0056b3; font-weight: bold;">The industry tailwinds support further growth of Post Trade Solutions</p> <p style="font-size: small;">Tailwinds create opportunities for further client growth and deeper partnerships, leading the industry in adoption of innovative solutions while ensuring resilience</p>
	Capability of technology is changing dramatically with long-term industry transformations; institutions with new technologies will be strongly positioned	>	
	Cost of driving technological change is increasing and both buy side and sell side are increasingly realising that insourcing of undifferentiated processes is suboptimal in the long term	>	
	There is consolidation across capital markets and customers are relying more on established, resilient institutions	>	

 **LSEG** Source: Expert inputs, client interviews, press search, annual filings

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### Daniel Maguire:

Let me explain what we're trying to achieve and what we're trying to do, in fact, what we are doing in this. So I referred earlier to the G20 in September 2009, Pittsburgh, that summit, and at a headline level without reading all the script, what they said was that thou must collateralise your derivatives. Some of that was cleared. We've talked a lot about that, but some of that was uncleared. We've referred to earlier in the slides of UMR, Uncleared Margin Rules.

So there's been a big focus to collateralise which is just meaning that some products like FX Options and non-deliverable forwards, as examples, they, even if traded bilaterally and remain uncleared, they actually attract margin. So perhaps clearing is the answer, but there are also a raft of products like forwards and swaps in FX, swaptions and cross-currencies for that matter, that are not mandated to clear so you don't have to post margin necessarily or in some you do, but the reality is that they are consuming a lot of capital. So capital being different to margin. So there are regulatory pressures focusing on you're either going to get charged margin or you're going to get charged increased capital, or in some examples, both.

Then secondly, a lot of opportunity to really improve this. If you speak to people about what is their infrastructure and their architecture choreography in the unclear space, they'll generally tell you it's very, very messy. Many different pieces of the puzzle. Really, really hard to be streamlined and straight through on this. If you think of what you're getting clearing and you have this uniformity from trade through to settle whereas in the uncleared world there's all these different pieces, bits and pieces as well. So this technology can help us do that, but we need to bring some order and centralised capability to that, as well as unleashing some technologies.


But very simply put, as an example, in the uncleared world, one of the banes of people's life will be that they have disputes. They have a difference of opinion on valuation, difference of opinion on collateral. In clearing, we don't have that. We just, the clearing house says the value is this. You pay your margin. There are things we can apply from clearing to the uncleared space with the right partnership around that. So very quickly, lots of things putting pressure into the bilateral space. Out of that, we have Post Trade Solutions which is basically working in that same business model closely with the customers through a deeper

partnership to build solutions and resilience so that we can make that piece of the market much more efficient.


## Our vision

These service lines work with existing cleared infrastructure to bring the benefits of clearing to currently uncleared trades and to consolidate processing across cleared and bilateral

### PTS service lines

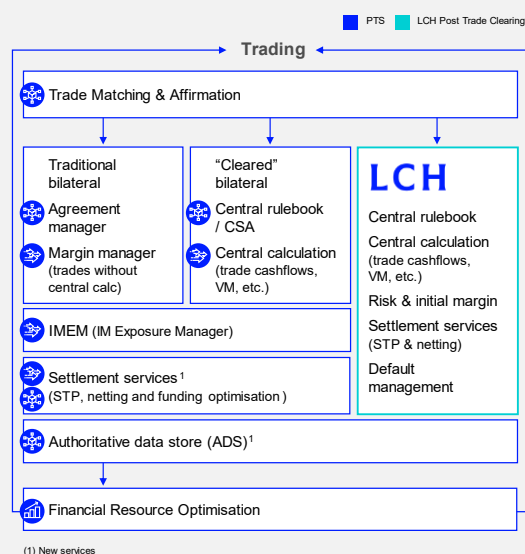
 Margin & Collateral Workflow

 Centralised Platforms & Data

 Risk & Optimisation



## PTS infrastructure



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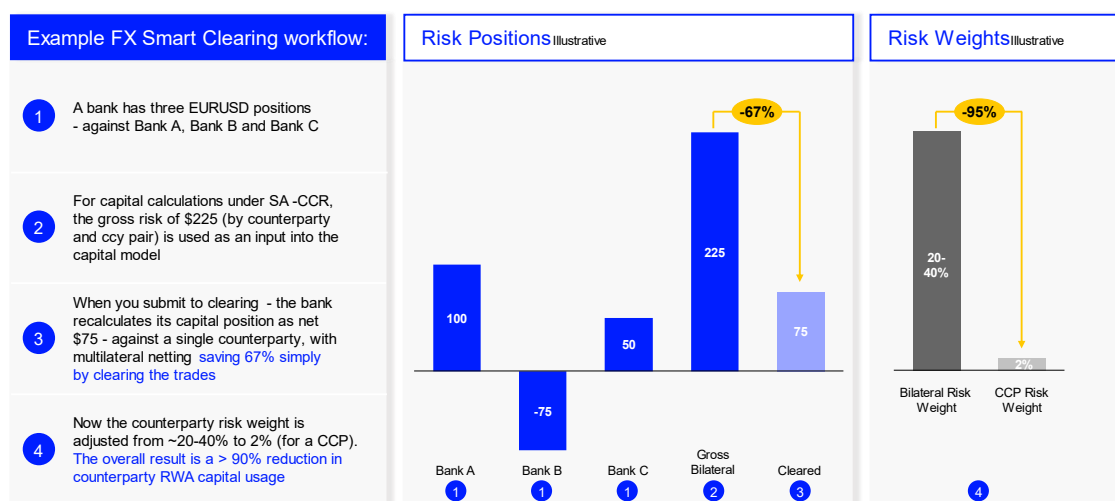
## Daniel Maguire:

Bottom line, you will never find someone who trades cleared rates or uncleared rates. You'll find someone who trades rates. They want solutions for the entire chain across their rates portfolio, or FX, or credit, or equity. So that sort of neatly lines up here. If you think about the schema, the schematic I think on the right-hand side, the PTS infrastructure, on the LCH side in the sort of teal colour, central rule book, central rules, standards, standardised and transparent risk and initial margin calculations, variation margin, so on and so forth, so you have very clear prescribed uniformity in how those non-standard trades become standardised through process.

What we are looking to build on the left-hand side is a lot of the same. In your traditional bilateral which I've referred to are uncleared, you'll have a myriad of different agreements, and legal agreements, and collateral agreements with each of your individual counterparties. If you bring it into a more centralised area, Post Trade Solutions, where we're having this, what we call the clearing house for the uncleared world, we can have a centralised rule book, a centralised collateral agreement, a centralised valuation and calculation so disputes are a thing of the past, a centralised calculation of your risk and margin associated with that and so on and so forth.

So what we're trying to, what we are building and have built with some acquisitions as well is a centralised platform and centralising data, and out of that, centralised margin and collateral workflow. And out of that we can apply a lot of our optimisation techniques to make these products and assets that sit within our PTS infrastructure much more capital efficient and reducing that footprint that I referred to earlier terms of financial resource optimisation.

## FX Smart Clearing is one example of the many use cases for Post Trade Solutions



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### Daniel Maguire:

So let's give a simple example around this. As I'm sure you can imagine, there are thousands upon thousands of counterparties here. But just in a very simplistic way, purely through the lens of capital at this point, not margin, you could overlay margin, we've developed a service called Smart Clearing. What is that? It's using the tools of Quantile where we can basically harvest a bunch of bilateral portfolios and find optimised subsets that we can put through our process and into a clearing house, and reduce the capital consumption of those portfolios.

So FX, not mandated for clearing, but there are some benefits, but you need to be very precise about what you bring in and what you leave out. So in this example, one bank has three positions, a bilateral position with bank A, positive 100, a bilateral position with bank B, minus 75, and a bilateral position with bank C, of positive 50. When you are calculating your capital consumption under SA-CCR, glossary of terms to come at the end of this to explain what that is, the gross risk will be 100 plus 75 plus 50 which is your 225 by counterparty currency pair. That is then used as an input into your capital model.

However if you take those trades and submit them into clearing as they're selected through the optimisation process, the first thing we'll do is net those down and therefore the capital position will be 75. So already you get a reduction by going from bilateral to cleared. But secondly, when you put it into a clearing house, the clearing house, as I referred to in some of my opening remarks, attracts a different counterparty risk weighting relative to bilateral, bilateral depending on the standing of the counter bodies between 20 and 40. CCP is generally at 2%. So what you're seeing there, the same print of trades kept bilateral and subject to bilateral counterparty risk versus putting them into a clearing house, getting the benefit of netting from a capital standpoint and the CCP risk rating, you're reducing by 90, 95% the capital footprint of those positions in your portfolio.

It's a very simple example but hopefully illustrates to the power of what we're building, and the point really is fundamentally we'd like you to clear. But if clearing isn't the right answer or if actually clearing attractable margin you want to target capital, we can do that between our cleared and our uncleared services. So really think of the entire universe of products and services we have as an entire solutions for Post Trade.

## Partnering across LSEG



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### Daniel Maguire:

To rattle through, we are doing a lot across the group as well. There is data coming from SwapClear from our credit business as well, from CDSClear, which is going into our FRTB fundamental review of the trading book product. So we've got connectivity there.

Similarly our regulatory reporting business, historically we view it as Univista, is utilising data from our World-Check product which sits within Risk Intelligence and also we're providing trade data, real-life trade data to enhance and really improve the benchmark pricing that we have in our fixed income products, the index products, FTSE.


In Cap Markets, my responsibilities now across markets as well. We've got connectivity between the trading platforms and the clearing houses and bringing seamless execution into clearing between our NDF matching platform that we've launched, and there's some optimisation we're doing through FXall and Quantile as well.

And then finally, a bit that we don't get a chance to talk about but I think it's really important, the relationships that we have in Post Trade are very senior within a lot of the major sell-side and buy-side firms because of the nature of the business we're doing, systemically important counterparty risk management. Isabelle and I, as an example, I think we're between us across about 1/3, maybe 40% of the group's strategic accounts as exec sponsors. Leaning into those relationships to make sure we can bring the overall firm and making sure we're bringing links to our data business, our index business, and Risk Intelligence as well.

So it's not just about the relationships we have in the context of Post Trade & Markets, but it's leveraging that elevated relationship we have to try and open doors for us to bring the broader group into those partnerships and become ever-more important with those customers as well.

## Further growth opportunities

<b>APAC expansion</b> pursuing business in China, Japan, Korea, India, Singapore, Hong Kong and Taiwan	<b>FMX</b> delivery of US futures clearing service with FMX	<b>CDS clearing</b> extending existing EU footprint and expanding customer network into US	<b>Digital asset clearing</b> launch of crypto derivatives clearing service with GFO-X
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**Daniel Maguire:**

I've come towards the end, so what are we super excited about? There's been a lot we talked about. Post Trade Solutions you can hopefully see, we see that as a very big medium, and long-term, and near-term opportunity. Asia as a region is really hot for us, spending a lot of time and investing a lot of money in making sure we have product tailored to the local markets as they develop and continue to grow as well.

FMX, I'm sure there'll be some questions on this, but historically this was futures, were going to take over the swaps market. Well, frankly the swaps market is alive and kicking, but actually we think there's some real good offsets to do futures against the swaps portfolio. We've succeeded in taking a major share in the European side on the CDS clearing and now expanding our network into the US, and we're starting to step into some of the digital asset clearing as well back end of this year into next year.

So constantly doing new things, as well as expanding our existing, is probably the key message to take away from here.

In summary

- Global multi-asset class franchise; strongly positioned
- Deep, expanding partnerships with leading financial institutions
- Continuous investment in new products and markets driving sustainable growth
- Leveraging capabilities and expertise across the Group

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**Daniel Maguire:**

And to finish, to wrap up, we've hopefully explained to you in quite a quick pace, perhaps we can go quicker, how does clearing work? Why is it critical? But I think and I hope you can see we've got some real strong foundations, real strong links, and trust with our customers, and a track record to prove it, but this is translated into growth. You can see that sustainable growth in the business organically, as well as now embellishing in the last year or two with some sort of strategic acquisitions that we've brought in, but really continuing on that sort of organic journey across the entire derivatives and securities chain. Not just limited these days to clearing, but the other elements as well.

And final, final, LSEG, a global business, multi-asset class. Post Trade, a global business, multi-asset class. Same customers and clients. Different personas perhaps in some of those firms, but we are constantly partnering with our customers and we're looking to extend that model across the group so we can have a more integral part of their business and bring value and bring success and growth to us as a group.

So with that I'll hit pause and hand back to Peregrine who I believe will moderate the Q&A, Peregrine.



## Q&A

### **Peregrine Riviere:**

Fantastic, thank you both very much for that.

We've got loads of questions, so let's see how many we can rattle through. Can I kick off with quite a broad one, it's anonymous, but can you talk a bit about the threats and challenges? Where might you face disruption either from new business models or new technology, for example?

### **Daniel Maguire:**

Maybe I'll take that one, Peregrine. I think we're constantly scanning the horizon for opportunities, but similarly threats. We're not in any way complacent. I think there's a lot said about disruptive new technologies and new capabilities, and we're certainly not tone deaf to that. I'll just sort of answer that very quickly. On the one hand, in clearing houses, heavy duty, high resilience, high regulatory scrutiny. Not necessarily the hotbed for trying out new things. These need to be super battle tested kind of areas. But with the creation of our Post Trade Solutions, we are able to embrace and do newer things quicker given they're less regulated.

So I think there are, certainly if you're in the more settlement space, I think some of the newer technologies and DLT, blockchain, et cetera are very interesting in that space. But I'd also say look, we have AI is embedded in a lot of our optimisation algorithms in Quantile. We are embracing these things. Perhaps we could do a better job of being more public about them, but I'd say the biggest challenge we're facing right now is actually the pace at which we're delivering new product services which are valued by customers, their ability to consume them. There is a challenge in terms of the streets, finite financial and human resources to be able to onboard and take these products and services.

So in some ways I think that's probably where our biggest challenge is. Less so some of those maybe medium-term threats, but please be assured we are keeping a close eye on looking where we can integrate these kind of elements into our offering as well.

### **Peregrine Riviere:**

Super, thank you, and then we've had quite a lot in general on FMX, so I might just try and pull some of those together. One is a specific question around the regulatory status of LCH in the US when it comes to clearing US treasury futures and SOFR futures, but perhaps more strategically a question on the margin efficiencies that our participants gain, what the economic opportunity is for us, and how big of a strategic focus it is for us, thank you.

### **Isabelle Girolami:**

Do you want me to take that?

### **Daniel Maguire:**

Okay, yeah.

**Isabelle Girolami:**

Okay, so first of all, from a regulatory perspective, we are fully registered with the CFTC which is one of our main regulators. We've been registered since 2001 actually as a clearing house, derivatives clearing organisation, DCO, right. So there's also an MOU between the CFTC and the Bank of England. So we have all the authorisations from a regulatory perspective to clear SOFR futures, but also US treasury futures. So just to be very clear about that.

In terms of the margin efficiency, maybe I can quote a couple of figures that we've been working on with the team when we were working on the concept of FMX. So it's around up to 80% of margin efficiencies for US dollar futures versus dollar swaps, and it's up to 50% for dollar futures versus 13 other currencies and not dollar swaps, right. So it's extremely efficient, and it's one of the reasons why there is the interest and the level of interest that we have seen from the investors into FMX.

**Peregrine Riviere:**

Super, thank you, I've got a question from Bruce Hamilton at Morgan Stanley. Can you remind us of the capital intensity of the business? How much capital does LCH have to hold or as a protection offered by margin, default fund, et cetera? Maybe just unpack a bit of what we went on the slide please, Daniel.

**Daniel Maguire:**

Yeah, absolutely, thanks for the question, Bruce. Look, I don't want to get too geeky in numbers and detail here, but headline, take LCH Limited as an example. We have two clearing houses, Paris and London. Limited is the preeminent one, in this context and we hold, I think it's in our public accounts, around a net capital holding of about £550 million.

But to be very precise, only £91 million of that, that roughly £90 million is what we refer to as skin in the game, okay? The remainder of that is capital which is calculated through a formula to be compliant with the EMIR regulation through credit, market, and operational risk. Operational risk being about 75% of that, and then just sort of wind down and business capital that we have to hold. So when you look at the actual capital at risk rather than the traditional wind-down operational capital, it's about £90 million.

And that skin in the game, just to be super clear, we refer to it at SITG, skin in the game, what is that? That is in the eventuality of a default, how much of our firm's capital is put at the front of the waterfall? Going back to the sort of waterfall I referred to, the first thing that we take in a default of any counterparty is we use their initial margin that they've posted and we've held.

The second thing we will use is their default fund that they've posted and we hold. The third thing we will then use is our skin in the game or a portion of that, and then the fourth thing is the mutualised default fund and so on and so forth through that. To be super clear on that, that skin in the game is different by services, but that's the aggregate for LCH Limited. And just to be super, super clear, we have never ever used more than the initial margin of the defaulting firm themselves, never mind their default fund contribution, never mind our skin in the game.

So we think of this as very highly protected. We think of this as it's a relatively low intensity element of that, but it drives the right behaviours to make sure we're holding our risk standards to the absolute, the gold highest of high standards. And quite frankly, our customers, our members who are also neutralisers in the worst case scenario encourage us

to do the same as well. So at the end of the day, as I've often said, nobody wants to buy the world's cheapest parachute. So we like to ensure we have the most resilient and robust risk management methods here. So that hopefully that gives you a bit of an unpacking, Bruce, but any other questions, let me know.

**Peregrine Riviere:**

And then I've got sort of three related questions from Russell Quelch at Redburn Atlantic. So in the uncleared market, is this white space or are there other people that we are displacing? What level of engagement have we seen so far in Post Trade Solutions? And what will our pricing model be or what is it?

**Daniel Maguire:**

Maybe I'll take those if that's okay. So I think the uncleared market is, to a large extent, white space. Now it's not to say there are no providers there. If we were to draw a picture of all the different firms or people that were involved in this space, it ends up becoming a very dark black piece of paper because there's so many relatively important, but small elements around the whole piece.

What we're offering and what we're bringing to the marketplace here is a single solution where we can do all those different elements for you. So we are looking at, I'll use an example from earlier. Today in the bilateral or uncleared space, there is a problem with dispute resolution. I say my valuation is this. You say it's this. We have a dispute. It ages, we hold capital against it. In our model, there are no disputes. So there are some businesses, for example, in that space making the dispute resolution process more efficient. What we're doing is removing the dispute resolution process. So our role and goal in this space is to either eliminate or materially rationalise a lot of these areas. So I think that's just one example, but there are many like that. So it's quite a busy space of interesting things. We think this is ripe for a sort of one solution around this and some of it we'll eliminate.

Level of engagement, just to give clarity, what we've done is we've created a Post Trade sales force here. So we're not going as LCH Limited or X clear, Y clear, Z clear. We have one team. These are the same customers at the end of the day and the same personas in those customers. So we've been integrating Quantile, Acadia, Post Trade Solutions into the overall sales offering and we're already seeing really good cross-sell, upsell for want of a better phrase, where the same customers who are using us on one product are looking to use us on another and another and another. So the engagement's really good.

I will just stress we are open access. We do also work with other providers in the space as well, so we're not in any way exclusive, but tying these things a little bit more closely together is certainly helping in our dialogue with customers with some success. And then finally, the pricing model. I'd say we're in early stages around this 'cause we've sort of been bringing these firms in, but there is a bit of a blend at this point. Some are more all-you-can-eat-type things akin to SwapClear on the member side as we look to sort of gain traction with customers and then some are more per diem, per ticket, or per transaction, or per message around it.

So there's no simple answer to that question. Over time, we'll probably bring more alignment to that, but we see a lot of opportunity for us to grow the business in this space and there's no shortage of interest.

And I think there was another question in terms of client sort of sites, just to be clear as well. These are not new businesses with no customers. Quantile was connected, had customers. Acadia was connected, it had 5,000 customers across multiple asset classes. So it's not

starting from scratch. This is taking established businesses, integrating, and putting one packaged offer to the customers.

**Peregrine Riviere:**

Super, question on SwapClear volumes from Andrew Coombs. What do you perceive to be the best rate environment for SwapClear volumes? One would assume higher rates and a steep curve, but you've seen volume growth across the last cycle.

**Isabelle Girolami:**

Yeah, I mean, for me, it's not dependent on the rate cycle. It's dependent on the underlying market volatility really, so it's relatively immune to whether rates are going up or down, but it's not immune in a good way to the way that rates are going up or down. So there's a bit of uncertainty around the monetary policy. Like we saw, for example, going into the last Fed adjustment, then it creates a huge amount of flurry of activity in the market, and that heightens the volatility and more trades coming into clearing. So I think that's more the way that I think about it than the link to whether the rates are going up or down. And that's why we saw that the business has continued to grow really pretty much whatever the rates environment is.

There's a question that I'll take as well, Peregrine, if you don't mind which was the one around EMIR because I've seen it come up a couple of times and it relates to SwapClear as well. So just to say that first of all, the level one text has been issued. We're waiting for level two. ESMA is working on it, so we don't quite know yet what the detailed implementation is going to look like.

However it's such a change compared to what we were looking at a few years ago. It's now not about migrating trades to the EU. It's about creating a sort of fallback, an operational account which could be used in the event of a problem with SwapClear. And there's very few trades that are going to have to go through the other CCP or one of the other CCPs, and the reality is that in all our calculations, and I can't share, I don't think Peregrine is going to be happy if I were to share exactly the impact, but the impact is very small, extremely marginal for us.

**Peregrine Riviere:**

Thank you very much. Just taking these in order, I think some of them can be quite quick. So Johannes at HSBC asking settlement and custody is far more impacted by change T+1 in the US, potentially in UK in some years, but what are the implications of T+1 for clearing?

**Daniel Maguire:**

De minimis is probably the short answer to that. I mean, really that's really shortening the window on settlement where really pre-settlement on a lot of what we do. So frankly de minimis is our view on the impact there.

**Isabelle Girolami:**

And also we're already Dan, we're already at T+1 effectively on the security side of the market, on the UK side, for example. We're already at T+1. We don't call it T+1, but the way that the market functions is T+1.

**Peregrine Riviere:**

And then on pricing power, Ryan at Visualize is asking can you discuss how you think about pricing power in the business, both frequency and magnitude, and how the minority member ownership may or may not limit your ability to raise price? I guess we could throw in OTCDN in that as well.

**Daniel Maguire:**

Yeah, great question, I think we take a medium to long-term view on everything we do. I refer to Post Trade Solutions who are the main participants and players in that space? No surprise, it's the same main participants that we see in the clear derivatives marketplace. So the business model and the way we operate, do we have pricing power? Yes, we do, do we increase prices from time to time? Yes, we do, but the predominant growth of the business has been through working in conjunction with our partners, building product that delivers value, and pricing and charging for that fairly. And then again, the next thing and the next thing and next thing. So whilst there's always a, this question comes up time and time again is could you not put prices up? I think the impact of that could stymie a lot of our future growth and future opportunities as well. So again we aren't deaf, we're not dead to this. We do increase our prices steadily over time, but it's also with a mind on what are the next things we're building, who are the networks that we want to build, what are the participants there? So I think it's being sensible and cautious around how we do these things. The answer is not... to not increase prices is the wrong answer, but also to jack prices is the wrong answer. This is more about sensible and steady and demonstrating we're delivering value as we go, but also we have a mind's eye on what are the next opportunities and who are the main participants? And it's generally the same big players on the buy and the sell-side on the derivatives portfolio of securities.

**Peregrine Riviere:**

I'd just say if your question isn't being read out, it's because I think we covered it in the presentation so I'm trying to pick out those ones we didn't touch on at all.

So this is from Ben Bathurst at RBC. Please can you give more detail on the reasons why you are confident that volatility will remain elevated, helping you to grow the activity levels at SwapClear? And secondly, how should we think about cost growth for the division looking forwards? There's been some EBITDA margin compression related to M&A, but would you expect that to expand or you're going to have to invest to grow PTS?

**Daniel Maguire:**

Do you want to take the first one, Isabelle?

**Isabelle Girolami:**

Yeah, I'll start on the first one. Look, I don't have a crystal ball, so I wish I did. But our assumptions is that it remains elevated because there are significant geopolitics at play here. Whether in the US, on the EU side, and global in the world, that makes the market pretty uncertain. And uncertainty creates volatility. That's sort of a little bit of an answer. The second one is again, as I said, every sort of unclear change to monetary policy which is bound to happen because again, we are in a downward cycle as you rightly pointed out, but not necessarily with 100% alignment from all the main central banks.

Not 100% alignment at the same time from all the central banks to the same quantum and signal to the market in advance in the right way. So that again, creates significant volatility as we have seen. Away from volatility, the fact that sovereign debt continues, and debt generally continues to grow and the issues creates more hedging opportunities, and so I mean, I'm quite relaxed for the potential for SwapClear for sure.

**Daniel Maguire:**

Maybe if I take the second question around you know cost growth of the division looking forwards and sort of commitment to EBITDA targets and so on or margin compression. Thanks for the question, Ben. I have a very religious focus on this, this isn't just about top line growth. It's about bottom right-hand corner of the spreadsheet as well and hopefully you can see we have a pretty good long-term trend in managing EBITDA to 50% plus levels in this division and higher. But we don't want to be doing that at the behest of investment, so there's going to be some peaks and troughs within that. But our intention is to continue to get back to those kind of levels, but we're making investments now for the future growth of the business. So they will have a slightly dilutive effect in the short-term, but please be very confident that we are laser-focused on extracting the synergies as we put these things together, but we also need to invest for growth. So it's getting that balance right in the context of the wider group targets as well obviously as we look to have margin expansion as well. So very focused there, but also we need to invest to grow both from a capital expenditure investment, but also from a supporting that and opex standpoint.

But we're very confident that these things, seeing our track record as well, there's a bit of a lag to these things. But we're seeing all the right leading indicators to give us confidence that we're investing in the right things.

**Peregrine Riviere:**

Great question here from Gregory Simpson at BNP Paribas. Can you talk about the role and potential of data in Post Trade? For instance, does LCH have a lot of data that isn't and could be monetised?

**Daniel Maguire:**

Maybe I'll jump in on that, thanks, Gregory. There is data in Post Trade. I would caution a little around some of the data. The value of data is primarily higher at the point of execution, would be a general theme and trend I would see certainly in the markets space. So when we think about our exchanges or our trading platforms in FX, for example, or Tradeweb, you see a perhaps higher intrinsic value in that data at the point of trade.

Post trade data, there's probably two real types of that. One is market data and I don't think we have any particular niche in that area. We're really just doing collateral valuation rather than pricing for trade, but what we do have is a lot of trade data. And so data that is based on trades that have been transacted. So when you think about reference rates as an example, the shift away from quoted rates to transacted rates and things along those lines, we're able to plumb these rates into, I mentioned earlier to FTSE Russell and fixed income indices into the fundamental review of the trading book.

So we think there is a sort of second order opportunity in these where we're leveraging the infrastructure of the group of making connectivity, but we haven't unearthed a major data opportunity. These are sort of very specific kind of use cases that we have, but we've got dedicated folks within this space and Isabelle and other colleagues' teams to try and extract what we're working, most importantly, in super close connectivity with our friends in Data & Analytics here.

So we've not cracked that yet, but I just caution it's probably more about trade data than market data and how can we really leverage that to create better insights.

Peregrine Riviere:

Thank you, anonymous question, could you please help add dimension to the biggest growth opportunity? Is it uncleared or FX, which is the most likely to have the biggest medium-term impact the overall Post Trade growth rate?

**Daniel Maguire:**

We may have a different view, Isabelle. What do you say?

**Isabelle Girolami:**

I was about to say for me, it's FX and maybe Dan has a view on the uncleared. So let me start maybe on FX. For FX, the opportunity is very large because the target addressable market, first of all, is absolutely huge. And this is one of the biggest markets in the world from a financial product perspective. And the more we hear about the prime brokerage activities of the banks, the more we hear that those activities are not necessarily 100% well-priced and well-assessed from a risk perspective.

So there's more and more shift away from PB into clearing and as we grow our offering, it sort of makes sense because we drive ever-more margin efficiency through the increase of the offering of the various underlying from an FX standpoint. So for me, it's a significant opportunity over the next few years.

**Daniel Maguire:**

If I build on that, what I'd love people to take away from this is we think the opportunity is in FX, some of it will be cleared, some of it will be uncleared, and I could say the same in other asset classes. FX is material in its size, hence it's the biggest. Historically our path was clearing is the answer.

Where we are now is clearing is a very good answer to some of the problems, but not the answer to all of the problems. And actually some of our Post Trade Solutions elements are quite helpful as well in being more capital efficient. So we think FX as an asset class is a big growth area. I think some will land in the clearing business, some will land in the uncleared or Post Trade Solutions business. And I think that's the way you should think about it is when how we're talking to our customers. It's we have more than one answer to the problem. And that's what's really resonating with customers around this. It's some things are capital solutions outside of clearing, some of them are capital and margin solutions inside of clearing. So I'm hopeful it's not a cop out. I actually think the answer is FX across the two, rather than one or the other. It'd be better than me telling you where the land lies on that, but definitely a big opportunity.

**Peregrine Riviere:**

And I think, unless this is quick, this may be the last question. We might just squeeze in two. Anonymous again, what is the difference between Quantile and Acadia, and how do they compete with OSTTRA?

**Daniel Maguire:**

Great, if you think about Quantile primarily, about credit, market, capital, risk optimisation. So think of it as coming from the school of resource management and resource optimisation.

Think about Acadia, think of that as more of a collateral messaging and collateral processing backbone for the uncleared derivatives market.

The two things are interconnected, hence we're putting together with SwapAgent and TradeAgent to make a combined capability. But the one thing Quantile can do, it can straddle between cleared and uncleared. Acadia is very much about the uncleared margin and the uncleared collateral space. So that's the sort of fundamental difference between the two, they are complimentary, not competing, and they're in a different space but similar.

I mentioned earlier open access. We work closely with TriOptima as well. I think at last look, about 35% of the compression that we see in SwapClear is through Quantile. The remainder is predominantly TriOptima, to answer that question with OSTTRA. I think there are some similar tools in OSTTRA to some of the ones we have, but I think Acadia is relatively unique in what it does as well. So it's probably more similarities between Quantile and some of the OSTTRA tools, but perhaps less so on the Acadia tools.

**Peregrine Riviere:**

Super, and I'm just looking for one more to finish with. I think a lot of these are duplications from previously. Here's a good question again. As more gross value moves from the uncleared to the cleared space, will there be a degree of cannibalisation of the TAM for LCH? Maybe we'll finish with that.

**Daniel Maguire:**

Sure, I see it the same way. I think as if things move from unclear to cleared, I'd say the TAM will increase for LCH, but the TAM for Post Trade Solutions perhaps will reduce, but the TAM for Post Trade remains the same. And I think that's the key message here is it can go this way, it can go that way, but our preference is it comes our way overall. Depending on the problem we're trying to solve, clearing may be the answer. Uncleared may be the answer, but I don't think there's a cannibalisation per se. It's more of a where does it land as opposed to does it disappear, it needs itself.

**Isabelle Girolami:**

And I think it's important to remember that there's a lot that is uncleared and unoptimised. So if everything was completely cleared, completely optimised everywhere, then yes, of course, there would be an element of optimisation. But it's not, and by far. So for us, there's an increase of target available model market overall because there's more that's going to come into either clearing or optimisation on the PTS side. For sure, and it's an ever-increasing drive.

**Daniel Maguire:**

Yeah, just to finish and build on that, I think with what we're building in Post Trade Solutions, you're introducing a degree of uniformity to what is a very sort of heterogeneous kind of bilateral space. You're bringing a bit more homogeneity perhaps to process, rule book, standard, messaging, and so on. That puts us in a position that over time, that would be a good proving ground where eventually perhaps things could move towards clearing. So this is again, where it's more complimentary than necessarily cannibalising.



The more standardised process, collateral agreements, rules and records, and so on we can do in the uncleared space, the more ripe it becomes perhaps over time for clearing with the ability to toggle between cleared and uncleared using the tools we've built.

That's probably the best way to think about it.

**Peregrine Riviere:**

And I think we're done. So Daniel, any closing words for our attendees?

**Daniel Maguire:**

Well, Peregrine, thanks for organising and Isabelle for joining, but I think to the attendees, really appreciate you spending the time. I know you're super busy people. Hopefully we've created a bit more clarity around what we do, why we're excited, why we're going to keep growing and expanding, and how we're bringing value to the customers. So I'm always happy to engage through these, but if there's a desire to go deeper, Isabelle and myself will always make ourselves available and Peregrine will always know where to find us.

So thank you for your time and please if there are any follow up questions, please send them through. We'd be happy to answer them for you, thank you.

**Isabelle Girolami:**

Bye bye.

**Daniel Maguire:**

Bye.