LSEG Investor Education Event | 1 October 2021

David Schwimmer:

Hello everyone. I'm David Schwimmer, CEO of LSEG, and I'm delighted to welcome you to our second investor education event. Our aim with these two investor events has been to cover each of the businesses that we acquired as part of the Refinitiv transaction, to give you all a better understanding of those businesses. If you have not had a chance to watch the first event, which we held on July 2nd, I would encourage you to do so. Today we will feature the two businesses within the Data and Analytics Division that we did not cover in July, so Investment Solutions and Wealth Solutions. In addition, we will also provide a brief overview of our Capital Markets Division, and then a closer look at the FX trading business, which we acquired as part of the Refinitiv deal.

In just a moment, I'll introduce each of the speakers from Data Analytics and Capital Markets. At the end of the presentations, we'll leave plenty of time for your questions. You can submit written questions as we go or speak to us over the phone lines during the live Q&A session. Turning to slide three, we have four speakers today, each of whom has extensive industry knowledge and experience. While some are new to the group, they have all really strengthened our leadership team with the expertise they bring. They will provide their insight on the businesses that they lead and share with you their priorities and the opportunities for growth and development.

First, Lea Carty, head of Investment Solutions. Lea joined us earlier this year and brings over 25 years' experience in indexing and portfolio analytics gained in senior roles at Moody's, Lehman Brothers, and Bloomberg. At a time of industry transformation for our investment customers, Lea brings deep expertise and leadership experience. He is partnering with our customers to build innovative new solutions with our data, analytics, and index capabilities.

Sabrina Bailey, head of Wealth Solutions. Sabrina also joined LSEG this year from Northern Trust, with more than 20 years' background in financial markets. Sabrina's deep expertise in retail and institutional wealth management gives her the ideal skillset to lead our global Wealth Solutions been business, supporting customers with the data, analytics, and investment tools they need to thrive through a critical time of industry transformation.

Then Murray Roos will introduce Capital Markets. Murray has been group head of this division since April 2020, having joined from Citigroup. He brings a global understanding of the capital markets lifecycle across asset classes, from pre-trade through to trading execution and post-trade, in both developed and emerging markets. Murray will introduce Neill Penney, head of FX, as part of his presentation. But as you can see on the slide, Neill has a strong background and expertise in financial markets and in FX markets in particular.

Before I hand over to our speakers, I'll touch on the busy and successful year we've had so far. Since completing the Refinitiv acquisition at the end of January, we have been making excellent progress on the integration and the synergies from the combination. The integration remains our key focus. In August, we provided a financial update with our first half results, with each division reporting strong revenue growth, and we confirmed our strong progress with our run rate, £77 million of cost synergies at the half year, ahead of our initial targets. We're not disclosing any further financial or synergies updates today, but we will release Q3 results later this month. We are in a very healthy financial position, with strong cash generation, and we are reducing our debt levels faster than originally planned. And we remain confident in achieving the financial targets that we have set out, with no change to the guidance we've provided.

Turning to slide five, today's speakers will talk about the long-term structural trends driving sustainable growth across their respective businesses, and I'm excited about the opportunities that we have. We are very well placed to benefit from these growth trends and from the strong foundations we have developed, including global presence across the value chain with a virtuous circle of connected products and services and new and enhanced data sets for the benefit of our customers, world class analytics and workflow products, and increasingly scalable platforms, operational efficiencies, and revenue synergies underway.

In our data and analytics businesses, we have high quality recurring revenues, and we are also well-positioned for the continued growth in volume of electronic trading across asset classes in our capital markets businesses. We're continuing a well-planned investment program, particularly for the data platform and in Workspace, and that's strengthening our data offerings. You will also hear about our migration of the FX trading platform to new, faster, and better technology, which will extend our product offerings for customers in this area. To be clear, the investments we discuss today are all within the existing guidance we have provided for costs and CapEx.

Let me turn to slide six. In July, we talked about the three areas of focus for the D&A business. The FX business also has similar priorities. In summary, we will accelerate our performance through, one, a strong focus on execution, continuing the rigor we bring to the way we run our businesses day in, day out, how we create new products, new content, strengthen our sales and distribution, and serve our customers. Two, enhancing the customer experience, driving value from the investment in technology, in particular in Workspace and the data platform and as you'll hear today, also in FX trading. And three, focusing on high impact priorities, synergy delivery, and the benefits of a larger group to deliver better operational efficiencies and service. These priority areas will drive the sustainable growth we expect to deliver over the medium term.

I'll finish with a reminder from the July event of our growth ambitions within the Data and Analytics Division, which comprises around 70% of group revenues. All of the businesses here operate in markets where we expect growth to continue in aggregate by between 4 to 6% per annum, driven by a range of factors we covered last time or that you will hear about today. There's no change to this medium term view that we gave in July.

Investment Solutions will deliver high single digit revenue growth, while Wealth Solutions will grow at low to mid single digits for the next couple years, due to the mix of revenues in this business. FX trading is also expected to grow, as you'll hear from Neill, though because revenues are driven in large part by trading volume, it is harder to provide a view on TAM in the same way as for Data and Analytics. We do, however, provide a view on the size of the market. With that, let's get started. Let me hand you over to Lea.

Lea Carty:

Thank you, David. I joined LSEG six months ago and bring over 25 years of experience earned at the intersection of investments, data, analytics, and technology, having worked within sell side, buy side, and technology and data firms. The investments industry is changing, and I joined LSEG to be a part of this change. LSEG has the right combination of data, analytics, and technology to be a leading player in this space. Its firm commitment to openness in terms of technology and data access positions us well for the future growth.

Investment Solutions is a significant player across the investment ecosystem, serving the gamut of market participants. As you can see on the right hand of slide 10, we have nearly $18 trillion in assets, benchmarked to FTSE Russell indices. 90% of the top 50 global fixed income managers license our analytics, and over 19,000 analysts use our workflow products.

Turning to slide 11, we provide solutions that power the development, execution, monitoring, and communication of investment strategies. FTSE Russell indices capture the risk and return characteristics of investment strategies. Benchmark rates are estimates of specific market prices or market rates. And fixed income analytics describe a bond's investment characteristics. Our data business focuses on the delivery of data for the implementation of critical investment strategies, and our workflow business combines data and analytics through technology to link together multiple steps in a client's day-to-day activities.

We provide these solutions across the investing ecosystem, from asset owners to asset managers and on to regulators and market infrastructure providers, such as exchanges. In these efforts, we generate recurring revenues through subscriptions to benchmark rates, indices, analytics, data, and software. We also generate asset-based fees from licenses to create index-linked financial products that are proportional to the value of assets linked to the product.

Turning to slide 12, global investible assets have grown considerably, doubling every 10 years since the year 2000. Accompanying this growth has been the advance of methodologies, data, and technology, leading to change, particularly in the investments industry. This advance has improved investors' abilities to critically evaluate the factors driving performance and is driving both the growth of passive investing and the cost pressures facing much of the industry. Consequently, capabilities that were until recently understood to be critical and proprietary sources of value creation are now routinely outsourced to specialist providers. Investment Solutions provides the tools that customers need in order to navigate this industry change. One example here is the industry's ongoing embrace of sustainable investment, where our customers look to us to help them incorporate related concepts throughout their investment processes. I'll provide more detail on this later.

Looking at the right hand side of the slide, our total addressable market stood at between £8 billion and £9.5 billion in 2020, with Investment Solutions comprising about 12.5% of the total. The breadth of the segment in which Investment Solutions competes begins with indices, but expands to include benchmark rates, analytics, data, and workflow solutions. We expect this segment to grow into the future at a rate of between 5 and 7%.

Turning to slide 13, we are a diversified business that uniquely combines a top tier index business with multi-asset class coverage, global distribution, and sophisticated analytics. Together, we provide solutions in investment strategy development, execution, monitoring, and communication. On the left hand side, we have benchmark rates, indices, and analytics. FTSE Russell is a top three index provider in a segment where the top three comprise around two-thirds of industry revenue. These indices are models of investment strategies. They are used to provide independent measurement of an investment strategy's performance and risk.

Benchmark rates, on the other hand, are estimates of a market price, such as foreign exchange, or a market rate, such as SONIA, a pending replacement for LIBOR in the UK. These are fundamental pillars of the global financial system that clients trust us to provide.

Finally, our fixed income analytics support the understanding of the investment characteristics of a bond or a portfolio of bonds. These analytics transform instrument-level terms and conditions, pricing, and market information into yields, spreads, and risk indicators, such as bond duration. Our fixed income analytics, delivered via Yield Book, have achieved recognition as the market standard for the measurement of interest rate risk for structured mortgage securities. This is so much the case that the Yield Book analytics are the standards used in the marketing of these securitizations.

Shifting to the right hand side, our primary data capability is our Quantitative Analytics business. Quantitative Analytics integrates a wide array of data from both our firm and from third parties. Currently, data scientists spend the majority of their time integrating, cleaning, and housing data, rather than on developing investment strategy. Our solutions enable them to reset that balance. Quantitative Analytics is a leader in this segment, competing with FactSet, Bloomberg, S&P, Moody's, amongst others. Finally, our workflow capabilities provide investors with the data and tools that they need to analyze individual securities and portfolio products.

As you can see on slide 14, our business generates a stable revenue stream, with virtually all of it, 99.8%, recurring. You'll notice in the center chart that Investment Solutions revenues are skewed towards the Americas. This is due in part to our business history. Our 2013 FTSE TMX partnership made us the largest provider of fixed income indices in Canada. Our 2014 combination with Russell indices made us the leading us equity index used by institutional investors. And our 2017 purchase of Yield Book established us as a global provider of fixed income analytics, but with particular expertise in the US structured mortgage segment. While the history of these businesses is America-centric, they hold value globally. The combination of North American indices with our global index coverage and reach allows us to cross- sell indices regionally. Similarly, while our fixed income analytics are particularly robust in the most complicated US segments, our capabilities are global and are now supported with expanded client reach.

The right hand chart indicates that our greatest concentration comes from benchmark rates, indices, and analytic subscriptions, reflecting the strength of our offering to institutional investors. This segment is driven substantially by the management of cash-funded separate accounts, for which an index data subscription is necessary to facilitate portfolio creation and maintenance, in comparison with its mandated benchmark. This is in contrast with other segments, which may use index-linked products, such as ETFs, which generate asset-based fees.

On the left side of slide 15, in darker blue, you can see that over the last three full years to 2020, revenue from subscriptions has achieved high single digit growth, averaging 8% per year. Over the same period, asset-based fees, in light blue, were flat. This highlights the sensitivity of asset-based fees to market valuations. For example, the market declines of early 2020 associated with the onset of COVID negatively impacted our asset-based fee revenues. Subscription-based revenues in contrast are less sensitive to market risk and continued to grow over this period.

Data and workflow revenues, highlighted here in gray, grew by 2% on average over this period, reflecting in part modest growth in Eikon, which has been impacted by limited integration with up- and downstream investment process and gaps in the workflow. Earlier this year, we launched Workspace for analysts and portfolio managers, which addresses many of these issues. This has been very well received, with over a hundred customers contracted in the first four months since launch. Overall, the business has achieved mid single digit revenue growth over the past three years, averaging 4% per year. This is below our forward expectations for the overall segment.

This period covers a refocusing of the benchmark rates and indices business around customer relationships and co-product creation. Traditionally, this industry has grown on the basis of price-based strategy. As a result, customers are now looking for the more cooperative relationships and greater product flexibility associated with higher value added solutions. For example, our Climate-Adjusted World Government Bond Index, which is a customization of our flagship WGBI, innovates in its use of climate data, not only on fixed income assets, but also on sovereign debt. To better meet this customer demand, we're investing in product development and index production technologies after a period of under-investment. On the right hand side of the slide, you can see that for the first half of 2021, Investment Solutions revenues have increased 8% year on year, with benchmark rates, indices, and analytics subscriptions remaining steady. Data and workflow grew by 4%, with asset-based fees growing 18% as markets recover from early 2020.

Turning to slide 17, the combination of market-leading indices, benchmark rates, and analytics with a global technology and data platform aligned to the needs of our customers creates powerful differentiators. For example, we're the only leading index business that is truly multi-asset class, with sophisticated analytics that has the customer reach, data, and technology required to distribute them globally. This gives us flexibility to cross-sell indices by asset class and geography. Further, our technology, combined with the breadth and quality of our data, offers a single point of access for customers, reducing their operating complexity and simplifying the management of their third party software and data relationships.

Turning to slide 18, at the center of our business is the idea of a trusted market standard that can be used to facilitate interactions between all market participants. In many segments, we have worked for decades to achieve this status. For example, the FTSE 100 Index was first published in 1984, while the Yield Book was launched in 1989. Asset owners are the key decision makers that select the agreed market standards for the performance and risk characteristics of their desired investment strategies. These market standards are defined by our indices and benchmarks.

Asset managers and banks implement portfolios designed to match or outperform these market standards. Our data, analytics, and workflows then support the evaluation of individual securities and their roll-up into these portfolios. Asset servicers, exchanges, and other market infrastructure provide safekeeping, execution, and other services to key decision makers and implementers. These services rely on our data, benchmarks, and indices for consistency.

Let me now provide a specific example on slide 19. Our benchmark rates business derives value from acting as a market-agreed-upon standard that can be used across the investments ecosystem. WM/Refinitiv FX Benchmarks provide estimates of currency prices. Before WM/R, there was no market standard for foreign exchange to be used for purposes of marking global assets to market. This created variability in asset values, hindering both comparison and understanding. To address this, WM/R developed a methodology for capturing and aggregating FX trade prices that won widespread acceptance and adoption as a standard.

Our WM/R customers are global investors, banks, and other market participants with cross-border activities. WM/R licenses provides certain rights and a data feed for purposes of marking their books to market, and fees reflect the value that each client generates from using the WM/R rates. The commercial model is designed to ensure that WM/R rates are accessible to all, as befits a global standard, from small users right through to the largest institutions. This results in a subscription generating stable and recurring revenues from a large group of investment market participants that are also an attractive cross-sell opportunity.

Slide 20 shows an important synergy between our indices and our pricing and reference services business in Data and Analytics' enterprise data segment. Construction of our fixed income indices is now based on our PRS data, and now we are able to sell both the index and the corresponding reference data, an approach adopted by other providers and one that our customers prefer. We've been encouraged with the progress, and we are seeing an acceleration in the rate at which new PRS clients are coming aboard.

Turning to slide 21, we are going through a generational shift in capital markets. Our customers are becoming more sophisticated and more demanding about the ESG content that they're looking for. Increasingly, they are looking to access the data underlying the various ESG scores, which play to our strengths, as we supply the data and analysis underpinning many of those ESG scores. We have a long history in this space, with a core ESG content set going back over 20 years, across more than 450 metrics for more than 10,000 companies. We also provide the tools to benchmark the performance of ESG investments.

Our Sustainable Investments team is both longstanding and multidisciplinary, with experience ranging from government to industry. We have a clear strategy that emphasizes data-driven approaches, with a focus on climate change, alongside deep industry partnerships across the investment ecosystem. This allows us to derive incremental value by threading SI concepts throughout workflow products, as well as across asset classes.

Turning to slide 23, we have three distinct areas of our plan to deliver above- segment growth. First, continuing what we're already doing, creating new products in partnership with customers, and expanding our distribution. Second, using Workspace and the data platform to provide improved products. And finally, investing in high growth areas, such as sustainable investment and related indices.

Let's first focus on execution on slide 24. I mentioned earlier that bringing together of PRS with FTSE Russell fixed income indices. This is a success, already significantly increasing the rate at which new PRS clients are being acquired. Another of my key priorities has been the launch of ESG versions of our flagship Russell indices. This will open up the US institutional segment to ESG-related product sales. And we are extending the coverage of our fixed income analytics to include the more than $800 billion collateralized loan obligation market. We're doing this through combining Yield Book capabilities and Refinitiv Loan Pricing Corp.'s loan data.

Switching away from new products, we are optimizing how we engage with customers. Historically, we operated some of our businesses in a vertically integrated manner. We're changing this arrangement to take advantage of the combined company's dramatically larger global sales and customer support effort. This takes our client-facing team of around 200 people to a network of over 2,000, supported by product specialists. An example here is the team that we have focused on the development of our asset-based fees. These index and investment strategy experts work with the generalist sales force to identify and cultivate new opportunities to launch and grow index-linked products such as ETFs.

Moving to slide 25, increasingly, customers are looking to access our content to derive incremental value from their data and analytics, while simultaneously managing their technology and data spend and simplifying their vendor relationships. We are helping customers achieve these benefits by threading our fixed income analytics, indices, and funds data throughout our data platform and the workflow products it supports, such as Workspace. For example, a fixed income analyst will be able to review a bond's terms and conditions on Workspace, determine which indices contain that bond, value it using PRS pricing, and use Yield Book's fixed income analytics to calculate its market risk.

Our customers also want easier access to our products. We're pursuing this in a number of ways, but among the most important are our efforts to modularize parts of our software stack and migrate them to the cloud. For example, structured mortgage products are among the most complicated instruments. They require large scale computing to execute the hundreds or thousands of long-term interest rate simulations and instrument cash flow projections that are required to measure the interest rate sensitivity of just one bond at one point in time. Separating these calculations into a separate module and migrating it to an elastic compute environment in the cloud allows customers to drastically reduce the time taken to complete these calculations, which have historically required hours for certain bonds.

Turning to slide 26, as I've said, one of the most important growth drivers today is sustainable investment. SI impacts the investment solutions business broadly, but particularly the indices business. Customers are asking us for a variety of sustainable investments themes indices, ranging from simple customizations of existing broad market indices on to more innovative indices, such as the Climate-Adjusted WGBI mentioned earlier. An important aspect of this demand concerns the ease with which customers can explore customizations like this in order to understand the impacts of their desired SI exposures. We are investing in our index systems to facilitate exactly this kind of more fluid and customer-driven engagement.

But SI extends beyond indices and into our data and workflow businesses as well. For example, investors need to be able to screen on SI and ESG fields when searching for investible instruments, in order to understand if they are suitable for a particular portfolio. Moreover, investors need to be able to aggregate portfolios and indices by ESG fields to understand their true exposure. These types of use cases are where the combination of our data- driven approach to SI and our data and workflow capabilities are particularly valuable.

The synergies we've identified are exciting. I've mentioned the link between fixed income indices and PRS earlier, but there are also important opportunities to expand the coverage of our fixed income indices to new geographies and instrument types, using our Refinitiv terms and conditions data, pricing, and our global client reach. Refinitiv platforms will also broaden the distribution of our fixed income analytics, improving Workspace for fixed income analysts and leading to cross-sell opportunities.

In summary, on slide 27, we have a clear mission: helping investors navigate a time of rapid industry change by providing solutions that power the development, execution, and communication of investment strategies. Supporting this is a portfolio of high quality businesses providing multi-asset class solutions across the global investment ecosystem. I'm excited by the opportunities. Our competitive advantages and the unique combination of an index and analytics business with a global data and technology provider positions us well against the macro trends driving this market. Together with our customer-led approach, the synergies created by our combination and our focus on execution against strong opportunities will port high single digit revenue growth over the medium term. Thank you. I'll now hand over to Sabrina Bailey.

Sabrina Bailey:

Thank you, Lea. I'll start by giving you a flavor of my background and why I joined the group. I've been in the wealth and financial services industry for over 20 years and have held various executive leadership roles over the last decade. Five months ago, I joined LSEG to lead the Wealth Solutions business. When I was presented with the opportunity to join the firm, the path forward was clear. I was excited about the future potential for the business, the customer-first focus of the people I talked with, and the potential to make use of firm-wide adjacencies as part of our future business strategy.

Today, I will give you an overview of our business, as well as how we will use our strengths to accelerate our growth over the medium term. On slide 30 is an overview of our business. We provide two types of services. The first is our Advisor & Investor Services, which includes onscreen solutions used by wealth managers to oversee client investment portfolios and connect with investors. This is powered by our content that provides the data needed to make sound financial decisions.

The second type is our operations management service. This is used by wealth managers to perform back office operations, such as securities processing. Our customers are wealth management firms that oversee individual investor wealth across the globe, from banks to digital wealth firms. Within these firms, our technology is largely used by five distinct types of people, ranging from the operations team to the individual investor. Overall, we make money through recurring subscription fees and non-recurring transaction-related fees.

Turning to slide 31, our revenues are diversified across businesses, geographies, and revenue models. Our revenue is roughly equally split between recurring and non-recurring fees, as well as advisor and investor and operations management. Our advisor and investor revenue is generated largely by recurring subscription-based fees. Operations management revenue is driven largely by non-recurring transaction-based

Sabrina Bailey:

Base fees within our BETA platform. Our global revenue is concentrated in the Americas, in part because our operations management services are only available in the U.S. Our advisor and investor services, which are available globally, have growing propositions in both APAC and EMEA. And turning to slide 32, I'm pleased to say the diversity of our offer is matched by the diversity of our customers. Our wealth business serves over 180, 000 advisors across 4,000 firms connecting with 5 million investors across 92 countries. We also service roughly 6 trillion in assets and process over 35 million transactions daily. Turning to slide 33, I believe our purpose goes beyond delivering wealth technology. Our purpose is to facilitate trusted connections between wealth managers and their clients by delivering data-driven insights, across wealth workflows, content and operations. This drives business efficiencies because our customers can see all of their data in one place. From one reliable provider.

Moving to the middle section, we also offer a flexible delivery model. Giving customers the ability to tailor a solution that's right for them. Finally, our services operates seamlessly with one another. Reducing the time it takes our customers to make an executed decision by providing clarity and consistency of data across their user base. Let me reiterate. We facilitate trusted relationships, offer the flexibility required for tailored solutions and provide the clarity and consistency our customers need to make well informed decisions. On slide 34, we show how we tailor our delivery to meet our customer's needs. Within wealth management firms. Our buyers include executives such as the chief information officer or the head of the wealth business. Here, you see four of the most common issues our customers are looking to solve. The flexibility of our delivery model means we can meet each of these use cases. For example, we can provide the content that powers our customer's wealth platform through APIs.

The technology that allows two applications to talk to one another. We can also provide a combination of APIs and widgets. Widgets are the visualization tools used to view the content in a meaningful way. Like the market charts you see on Google Finance. Or we can deliver technology platforms like Workspace and BETA to our customers. These platforms provide a full on-screen experience for activities like managing wealth portfolios, or processing securities transaction. Our competitors in this space include FactSet, InvestCloud, Morningstar, FIS, and Broadridge. What sets us apart is our global scale and the breadth of services we offer. This scale and scope gives our customers the ability to develop fewer but richer fender relationships. In fact, one of the main reasons I joined LSEG is I could see how we have the breadth and depth needed to service global customers. Very few of our competitors can, because they're almost all regionally or sub proposition focused,

Turning to slide 35, there are four major macro trends I'd like you to focus on. The first is advancing digital technologies. This has created demand for greater customer access to digital tools, workflow integration, and enhanced user experiences. The second is the growth of hyper-personalization. As there is an increased demand for personalized services and insights from wealth management firms. The ability to provide these insights is the key to building trusted relationships. We've all seen this trend across many industries from entertainment to healthcare over the last decade. With the financial services industry now following suit. The rise of the self-directed investor is the next trend. These investors range in size from massive fluent to ultra high net worth individuals. This is being accelerated by generational wealth transfer and increased fee transparency. Additionally, the rise of fintechs is making investing more accessible to the masses. Last, the global pandemic has transformed service expectation.

A shift we expect is permanent. Advisors, investors, and quite frankly, the rest of us, now expect service 24/7. The ability to connect with one another remotely, and the ability to access self-service digital support tools. These four trends are influencing the growth of wealth management technology segment. Expect it to increase between five and 7% per annum over the next few years. It is important that you know, much of this market is fragmented with the inclusion of services ranging from robo advice to securities processing. In fact, less than a third of the addressable market segment is in the operations management space whereas our business is more balanced. What does this mean for our business? Moving to slide 36, when adjusted for our current business mix, we expect our growth will be low to mid single digits, which aligns with the guidance you received in July. Our advisor and investor services make up 56% of our business and fall in the highest expected growth area of the market.

In this area, the platform offerings are improving with the launch of Workspace for Wealth, our next generation platform earlier this year, I am pleased to say Workspace has been well received as evidenced by new customer wins around the globe, including a large U.S. Bank, a Japanese wealth firm and a European private bank. These customers selected us for three reasons. First, the speed at which we deliver the data. Second, our ability to provide consistent pricing and reference content across all asset classes. And third, our ability to unite these elements with our customer's proprietary data. We will continue to invest in expanding Workspace for Wealth capabilities, migrating our customers progressively to this next generation platform, over the next few years. We're also building digital tools, including the launch of onboarding services and the provision of software development toolkits for our customers. Operations management accounts for 44% of our business and is in the lower growth segment of the market.

While this is a core offering for us, it is the advisor and investor services that will contribute the most toward accelerating our growth. Our service offering is competitive and our growth has been stable strengthened by the resiliency of our platform and the rise of zero fee trading, which has driven an increase in transaction volumes. Turning to slide 37, much of our business has experienced growth offset by a decline in our platform business prior to 2021. I acknowledge our current overall growth rate of 2% is lower than the overall segment growth rate. I will direct you first to the operations management business colored gray in the bar charts. Growth was strong through 2020 driven by an increase in transaction volumes. This was because the industry moved to zero fee trading and market volatility increased largely due to the pandemic during this time. Looking at the first half of this year, the 5% decline in operations management revenue is largely due to a slow down in the same transaction volumes as market activity began to normalize. Shifting to our advisor and investor services in blue.

As a reminder, there are two core services we provide. The onscreen platform and the content that powers that platform. The 1% revenue decline was driven by customer platform cancellations attributable to underinvestment by previous owners and our legacy Thomson ONE on-screen platform. The decline was moderated by strong growth in our content services globally, as we continue to both expand and enhance our offering. This demand continued into the first half of the year, contributing to a 6% increase in revenue year over year. Importantly, the 2018 loss of platform revenue triggered our investment into our next generation platform Workspace for Wealth, which has been, as I said on the previous slide, well-received. In summary, most our businesses delivered growth and we are addressing historic underperformance. Moving to slide 39, I believe we have five competitive advantages that are powerful differentiators. The first is our global scale. We are one of only a few firms that can deliver a single platform with consistent data to our global customers.

The second is the breadth and depth of our content analytics services, which are differentiated by our ability to combine our customer's data and investment views with our own. The power of the combined data actively supports advisor investment decision-making. Third is our openness to partnering with customers so they can deliver upon their growth goals. We do this by bringing together third-party data, our data and our customers' data into a single view. Fourth is our ability to provide tailored customer experiences from front to back office services. We are one of the only firms to give our customers the ability to combine front and back office services into a seamless solution. Finally, the resiliency of our securities processing services is the differentiator most often cited by our customers. In fact, during the global pandemic, our services were up 100% of the time. This resiliency provides security for our customers and their end investors.

Take note. Our clients hire us because we can deliver robust content sets, at speed, linked directly to our customer data, enabling tailored real time investment decision making by advisors. On slide 40, we show how we've delivered upon investments that further our competitive advantage and align to macro trends. The first trend you see here, personalization, is a great example. Building upon the strength of our content and our openness to partnering with customers we launched House Views and Market Insights during the first quarter. This is a service that securely integrates affirms proprietary investment information with market news and data providing more personalized insights to the advisors we serve. Another example is our response to the macro shift in digital technology. We deliver digital client onboarding services linked directly to our securities processing system BETA. We are actively investing in furthering our competitive advantages, and I have a clear strategy to accelerate growth in the medium term.

Moving to slide 42, Let's talk about what we're doing to deliver on our growth goals. First, focusing on execution. Second, enhancing the customer experience. And third growing through targeted investments in adjacencies. Our focus on execution includes improving our product through stronger customer engagement. Next, we're enhancing the customer experience by improving customer workflow tools, including self service capabilities to drive business efficiency. Finally, we're concentrating on investing in higher growth market segments, such as advisor and investor services on global expansion, as well as making use of our adjacencies made possible by being part of a significantly larger organization. We believe having a laser-like focus on execution, customer experience and higher growth will allow us to achieve our goals. On the next few slides, I want you to join me as we take a deeper dive into these areas. Slide 43 shows some of the work we're doing to engage with customers.

I'd love you to take a look more closely at this slide after the presentation, because our ability to meet customer asks is strongly linked with our ability to grow revenue. On the third example, we highlight our response to a customer who is seeking to drive business growth through expansion of their capabilities for self directed investors. In response, we developed and launched Active Investor, a digital service built with the latest technology that can be branded by our customers and linked directly to their trading systems to accelerate their revenue growth. We are listening closely to our customers and executing on solutions to address their key pain points with a focus on driving revenue growth. Moving to slide 44. One of my personal values is service to others. In order to serve our customers, we have to integrate their voice into our roadmap. The detail you see here is my team's plan for how we're going to do that.

It's crucial, because our ability to deliver consistently on customer requirements is what sets us up to accelerate revenue growth and differentiate ourselves. I would like to highlight two common threads that tie together our deliverables between now and the end of 2022. First, is the continued expansion of our workflow and content services. Second, is a focus on enhancing user interfaces and visual tools for our customers. Move with me now to our midterm goals. These reflect our execution strategy, tied to trends in the market from personalization to demand for self-service tools. Importantly, we are investing in digital first support services for our customers as they upgrade to our next generation wealth platforms. I am confident we will deliver on our combined roadmap, focused on expanding workflows, enhancing content sets and enriching the customer experience across our services to accelerate business growth. Turning to our second area of growth on slide 45, we are enhancing customer experience by investing in the delivery of tailored services that combine the power of content, personalization and control.

As it relates to content, we are accelerating our wealth strategy through group investment in both workspace and data platforms, as well as bringing customer data onto these platforms to provide richer insights to advisors and investors. This integration of customer data flows into personalized services provided through investor and advisor portals, which can be owned, shared, or outsourced to us by our customers. Lastly, in the control area, we are bolstering our resiliency of our operations, enhancing our digital tool set and adhering to new and evolving regulatory requirements. Notably. We provide the three legs of the stool for tailored customer solutions to sit on. Content, personalization and control. Moving to our last area, focus on slide 46. We are prioritizing higher growth areas of the market, as well as investing in group adjacencies. We are making targeted investments and expanding our workflow, content services and digital tools in the advisor and investor services segment, as it is the higher growth segment of the wealth technology market.

We are also seeking to increase our global footprint with targeted strategic expansion into regions, such as Asia, where growth is supported by the strength of our current position and the expansion of wealth management technology services in the region. Finally, I am excited by the adjacency opportunities made possible by being part of an enlarged organization, specifically with an investment solutions and third-party risks. Again, this is one of the reasons I joined the firm. As an example, we are already looking at distribution of our investment solutions through our wealth technology, as well as developing a joint digital onboarding solution with our third party risk business over the medium term. Turning to slide 47, our focus on execution, customer experience, and growth will serve as the foundation of our future. Here, you can see the timeline. We will continue to see the benefits of better execution over the next 12 to 24 months.

These benefits will start to come through in 2022 and accelerate in the following years. In conclusion, on slide 48, we have a clear plan to improve business execution and deliver upon low to mid single digit growth over the medium term. We are proactively addressing our revenue growth by investing advisor and investor services, including Workspace, the data platform and our digital tools. Listen, we have a strong portfolio of businesses underpinned by clear growth drivers, a targeted investment strategy, and a laser-like focus on execution. I am ecstatic about the future of our business. Now I will turn the presentation over to Marie. Thank you.

Murray Roos:

I'm Murray Roos, and I joined LSEG last year as Group Head of Capital Markets. Over the next few slides I'll give you an overview of our business. Before I pass on to Neil Penney for a deeper dive on our FX business. Starting on slide 51, the capital markets division at LSEG is a global business spanning multiple asset classes. We provide the platform for effectively two services. The first is capital raising, in which we facilitate the transfer of primary capital from investors to issuers of either public equity or debt securities for our London Stock Exchange brand. This spans the main market, which is where the larger companies are listed. Our tailored AIM market for smaller companies, as well as various other segments on which ETFs, bonds, and funds are listed. The second service we provide is trading. We operate trading venues under a number of brands, allowing buyers and sellers to transect equities, FX and fixed income instruments.

London Stock Exchange and Turquoise are the venues which concentrate primarily on equities FXall and Matching serve global FX market participants, and Tradeweb is our platform on which fixed income securities are traded. Our customer base is extremely diverse. We provide these capital raising and trading platforms to all facets of the financial services industry. From corporates to sovereigns, to large banks and broker dealers. And to the buy side of asset managers, funds and hedge funds. We commercialize our offering in different ways too, depending on the service provided. In primary markets, which is where we facilitate capital raising, we charge issuers an admission fee to join our market and then recurring annual fees. The more issuers who're listed on our markets, the more revenue we make. In our trading businesses, which we call secondary markets, we generate revenue from turnover. Most of our revenue here comes from the fees we charge for transactions. But we also generate revenue streams adjacent to actual trading.

We monetize real time market data from transactions. And we also charge for the service of transaction reporting, where we fulfill regulatory reporting requirements on behalf of our customers. And the secondary markets businesses largely correlated to market volumes. The more trading that happens on our markets, the more revenue we make. Turning to slide 52, capital markets really sets up the value chain for LSEG. On the left of the slide, our primary markets are where equities and bonds are born in public markets. The issuer information feeds pre-trade analytics and indexing products in our DNA business. Our secondary markets business is where we facilitate trade execution, and those trades feed up post-trade division. The transaction data from the consummation of those trades feeds the liquidity discovery element of our pre-trade business, and is relied upon in turn for decision-making on future trades. And this is a key differentiator for us, and there's a seamless relationship between the business divisions.

Turning to slide 53. The capital markets business at LSEG is a market leader. Our equity businesses of LSE and Turquoise are steeped in history, trust and dependency. Were over 200 years old, have deeply ingrained trust with a European financial industry, a great time zone for doing business, and a regulatory and legal framework that gives participants confidence. As a result, we top the capital raised league tables in Europe every year. We have more foreign companies listed on our exchange than any other exchange. And are establishing ourselves as a leader in sustainable finance.

We've got the highest trading volumes in UK equities, and we're a leading pan-European multilateral trading facility. Our FX businesses FXall and Matching have a 20 year history and providing client solutions across the world in electronic effects markets. Our Matching businesses is one of the two recognized primary venues in FX, making it a reference point for the dealer to dealer FX market. We've been the number one ranked FX platform by volumes for 18 years, with a client base that spans the entire globe. And over 2,400 buy-side customers and 200 liquidity providers. And finally, in fixed income, Tradeweb is also global and also has over 20 years history of trading as well as being a pioneer in electronic fixed income trading. It's the leading platform in fixed income, OTC trading and ETF trading globally.

Looking at slide 54, I want to give you some perspective on the international reach of our business. Many exchanges dominate their home market or home region. Their business models are optimized to a particular set of clients and opportunities. As you can see from the map, our capital markets business is global, and we build our business to be able to maximize the customers we trade with and the products we trade. And this is really important for scale. We're the most international listing venue, with issuers from over a hundred countries. This is a core strength and that our primary markets business has a very large target addressable market. Our FX business and fixed income businesses is also completely global, with participants from all over the world. And we service these customers with an LSEG presence in all major regions. Turning to slide 55, the capital markets division is a strong contributor to LSEG revenues.

Currently, it makes up over 18% of group revenues. And this percentage is growing. The business has a three-year CAGR of 9% as you can see from the chart on the left. Equities is a mature business. And a strong environment for capital raising has helped drive its growth in recent times. Neil will spend a little bit more time discussing the dynamics of our FX business in a moment, but suffice it to say our dealer to client business, FXall, is growing at around 3%. And we have a concrete plan to remedy the historic underinvestment in our dealer to dealer business. And finally, Tradeweb is benefiting from a structural trend towards electronification, as well as strong market conditions to achieve growth of over 15%. Turning to slide 56. I've given you some perspectives on the external view of our business, but I think it's important to discuss some internal dynamics, which we are proud of.

Capital markets is a scale business. We're able to increase our operating margins as we grow revenue, as it's highly electronic and there's little or no marginal costs from adding revenue. The geographic dynamic and all to all dynamic of our FX and fixed income platforms also mean that the target market is vast. We're able to scale expertise, as we now use common technology compliance and onboarding platforms across our equity businesses. The replatforming of FX will follow the same direction. This allows us to achieve scale on the cost base, and gives us increased confidence in the execution of the replatforming. We've done it before and we understand how to do it. Our significantly increased geographic reach since the acquisition also allows our equity businesses to reach a wider audience generating network effects. Moving to slide 57. Now I've shown a similar slide earlier, explaining how capital markets sets up the value chain for LSEG.

But let me give you an example to show how the various elements interact. In London stock exchange, we operate a business called Issuer Services, which provides supplementary data and analytics to our listed issuer clients. The partnership with our DNA business now allows us to have much richer data sets, for example, ESG data, which we're able to distribute to our issuer clients. And as we enhance our datasets in DNA, we can augment their sales process by offering the product through our issuer services portal. Likewise, the desktop reach we have through Workspace is a valuable distribution tool for the streaming communications products. For example, it allows companies to record a trading statement or results presentation and reach our full global network seamlessly. And these are things we have done since the close of the transaction. And the benefits they bring to customers and the resulting network effect and scale that they facilitate is impressive.

In summary, on slide 58. The capital markets business has a leading market position in equities, FX and fixed income. It's growing strongly with the potential for further growth, and it has significant scale and strong network effects within the group. Neil Penney will now dive a little deep into one of our main areas of investment, the FX business. Neil is a veteran of the industry having been active in the FX business for over 25 years, spanning careers in investment banks, FXall and Refinitiv. He's an expert in market structure, being instrumental in the evolution of the FX e-commerce markets since their inception. He sits on the Bank of England and Federal Reserve FX committees, and he's leading the substantial investment we are making in our FX venues business. Over to you, Neil.

Neil Penney:

Thank you, Murray. Let me start with a few words on why I'm excited when I look ahead. I originally joined Thomson Reuters in 2013, because there is no other company with similar position and heritage in the FX marketplace. The products that we're going to be talking about have been innovation drivers in changing the way the FX industry works. But the industry is increasingly driven by advanced technology and as a data company, Thomson Reuters, and then Refinitiv, lacked the capabilities to keep up. And so there have been lots of things that I've wanted to do for the business, but couldn't. LSEG's acquisition changes this. The enhancements that we're now building are exactly the things I've long wanted to deliver. It feels great to be moving forward with conviction and momentum. Let me give you a summary of what I'm going to cover on slide 61. LSEG's FX business is recognized as a market leader.

We have several competitive advantages that deliver significant customer benefits and place us in a good position to drive growth. However, the business has not met its potential in recent years. This is due to under-investment. LSEG's acquisition is enabling us to address this. We've increased investment to provide the capabilities our customers have been asking for. With these changes, the business will deliver its growth potential and increase our agility to pursue new opportunities. Moving to slide 62, we have three main products. First FXall is targeted at end users of FX. Asset managers, corporations, and hedge funds. It enables them to organize their trading with their banks to trade on the best prices available, have the benefits of straight-through processing, so there is no re-keying of trade details and obtain the reports and analytics they need. Second, Matching is a different type of trading platform. It enables banks and other market makers to hedge their positions by trading anonymously.

And finally, Matching Data. The real time distribution of prices and trades executed on Matching is valued in its own right. It is trusted by market participants globally to set reference levels and drive customer pricing. All of these products are market leading, and enable us to serve all types of institutional companies trading FX globally.

Finally, as you can see from the right hand side, we commercialize our offerings in different ways. For FXall, most of the revenue is earned by brokerage paid by banks when they trade with their customers for Matching both counter parties pay brokerage when a deal is completed. And Matching Data is paid for on a subscription basis. Turning to slide 63. The key takeaway on this slide is the diversity of customer types and geographies. On the left, you can see that we have a good customer footprint in all segments of the institutional FX space. The middle chart shows that we have a strong presence in all regions. And looking at the third chart, you'll see that FXall is the largest of the three products. Turning to slide 64. This next slide brings these products to life by showing how FX market

Neil Penney:

Market participants use them to solve their business problems. We start on the left hand of the slide. We have a UK asset manager that has decided to buy a US equity on behalf of a customer. It now needs to exchange some Sterling for Dollars. The asset manager uses FXall to ask a panel of its banks for prices on this trade and selects bank A who has the best price. At this point the asset manager's task is completed. It has the FX it needs and FXall's technology connects with the asset manager's technology to automatically book the trade. Looking at the middle of the slide, bank A now has an FX position. This position will fluctuate up and down in real time as additional customers trade with it. Bank A now decides to flatten its position. By putting orders into Matching, it signals that it has an interest to trade.

It benefits from a large network of FX customers, which enables this signal to reach a very broad set of potential counterparties. Bank B puts in an offsetting order and the two orders match, a trade is created and bank A is now flat. Finally, the prices that went into Matching during this process become part of the Matching data that is shared with all the Matching users. This information is then used by banks to help them make prices for the next customer trade. Before continuing, I wanted to highlight the bigger picture, and show you the full set of our company's FX capabilities on slide 65. There are four problems that we solve for our customers, first trading, enabling customers to find counterparties and trade at competitive prices. Second, workflow, tools to help customers organize their FX trading, executing large numbers of trades efficiently. Third data, information to help customers make informed trading decisions. And finally clearing, a capital efficient way for customers to manage their counterparty risk post-trade.

The diagram shows how the different parts of LSEG deliver this comprehensive set of end to end capabilities. For example, you've heard Lee talk about WMR earlier. Matching data is an input into the benchmark. Having end-to-end capabilities helps our customers and is a competitive differentiator. It means customers don't have to manage multiple vendors or knit together incompatible solutions. This simplifies their lives and saves them money. Finally, they benefit from having a strategic partner with a broad view of the FX industry. Over the next two slides I want to show you that even as the market leader in FX, we have a significant opportunity for growth. Turning first to slide 66. High volumes of 446 billion per day make us the industry's largest provider of FX venues. However, as you can see on the right, the enormous volume of FX executed globally means there is a huge potential for further growth in our market share.

For example looking at the pale blue box, the volume executed by ourselves and competitors is as big as 2.8 trillion per day, offering us opportunity for competitive displacement. Beyond this looking at the gray box, total FX volumes are a multiple larger scale at 6.6 trillion per day. More and more of the world's FX is being executed on electronic platforms, and clearly we have further scope to win business as the market continues to evolve. Moving to slide 67. Now that we've seen how large the FX market is I want to highlight some ways in which usage patterns are evolving. These changes are helping to drive growth in our business. As the first chart shows market participants are trading increasing amounts of FX. Between 2016 and 2019 this huge market grew at an annualized rate of 9%. The middle chart shows how customers are continuing to transition from voice trading to electronic.

And finally, there is a migration from customers trading directly with their banks towards using specialist solutions such as FXall. regulation is helping to drive this transition, as you can see from the chart on the right. Let me now tell you how these industry trends are playing out in our business.

Moving on to slide 68. Looking at FXall and Matching we see two different stories. FXall has been growing in recent years while Matching has been declining over the same period. Overall, these factors have offset each other and the business has remained roughly flat. Turning first to FXall, FXall is a strong product with advanced capabilities. It has a high quality customer base consisting of some of the most important global asset managers and corporations. And this makes it important to our banks as well. FXall has delivered strong growth for many years. The growth number shown for FXall is 3%.

However, if we look at a three-year period, the growth is 8%, which I consider more representative. This growth can be accelerated with additional investment, and that's what we're doing. We've already increased the delivery of new products. These have been well received by our customers, and we are continuing to enhance our offering. Turning now to Matching, owing to historical under-investment Matching has not evolved fast enough to keep up with changes in customer needs. Therefore, our customers have found better solutions in competitive alternatives. We are now addressing this by migrating Matching to LSEG technology. Our customers have been very positive about this news. Matching remains a vital venue for them, and they want it to be successful. This investment will enable us to bring Matching up to date and provide a platform for delivering new trading solutions going forward. Moving now to slide 69, let me recap on our key differentiators. There are five points to focus on first, our global scale and industry leading network is a benefit for our customers.

When they come to trade, they want to use a platform that maximizes the chances that they can trade quickly and on a competitive price. We say that liquidity begets liquidity. Second, we have innovative capabilities in FXall that we continue to develop year on year. Third Matching is a key venue in the ethics marketplace trusted globally to set reference pricing. We continue to expand the network including in emerging markets. Fourth, the FX solutions provided by capital markets work with a broader set of FX solutions offered by LSEG. By developing solutions that work together.We simplify our customers' processes and save them money. And finally, the LSEG acquisition brings advanced technologies and new focus to our business. Let me now tell you how we are maximizing this potential, starting on slide 71.

I'm going to cover this over the next three slides by breaking our growth plans into three main areas. First, accelerating the growth of FXall second, continuing to develop our Matching business using the existing technology, and third transforming our Matching offering by integrating into LSEG technology. Turning first to slide 72. As I've said FXall is already a strong product. To deliver continued growth in FXall, we therefore need to make ongoing enhancements to address existing product set across execution workflow, analytics, and reporting. These enable us to attract new customers as well as keeping up with the changing needs of existing customers. I thought it would be helpful to highlight just one of these capabilities, connectivity between FXall and LCH is ForexClear. Changes in regulation, such as the uncleared margin rules are driving increased adoption of centralized clearing and settlement for FX. These changes are starting to impact the way the buy-side needs to manage FX trading and settlement.

To help the buy side in this transition, we have developed a link between FXall and ForexClear. This will simplify our customers' operational processes and reduced their costs. It's a good example of us developing end to end solutions for our customers. Enhancements like this will be ongoing. Looking ahead for example, we see opportunities to provide additional value to our customers by offering FXall within workspace. Moving next to slide 73, while the replatforming of Matching is underway we continue to work hard on pursuing opportunities within the existing platform. For example, we have an active program in emerging markets where in recent years we have launched Matching in Thailand, Vietnam, and Indonesia. We've also been working to support our customers in the automation of the inter-dealer FX swaps trading, the largest FX product traded by volume and an area in which Matching is a leader.

To date, this part of the market has been traded manually, but now our banks are looking to increase automation. We've worked with them to develop API connectivity, and we launched the product earlier this year that has been well received. We are excited by the level of demand for this new capability. And finally turning to slide 74, migrating Matching to LSEG technology will deliver a step change in our ability to serve the dealer to dealer market, and give us greater agility to deliver future solutions. The current technology is over 10 years old. Migrating to LSEG's state-of-the-art technology will deliver a greater than 10 fold performance improvement. In a nutshell, Matchings long been punching below its weight due to old and underperforming technology. I am confident that with the migration complete, we will see Matching return to growth. Before moving on, let me give you an example of the future growth potential in this part of the business. NDF or non-deliverable forwards are a particular type of FX product used in countries that have currency exchange restrictions.

Usage of NDF is growing, and our banks have been asking us to support them on Matching. Given our extensive desktop presence in emerging markets, we are an obvious partner for them. Unfortunately, adding these capabilities has not been possible on the current platform, but it is something that we are looking to pursue once the initial Matching migration is complete. Turning now to slide 75, I'd like to finish by reminding you where we are today and why this business will grow in the future. To summarize, as I said at the start, LSEG is a market leader in FX with multiple differentiators. These include advanced product capabilities, the size and quality of our customer network, and the broader set of end to end solutions that we can deliver as LSEG. And we are building on this strong foundation. The LSEG acquisition is increasing investment and injecting new focus. Our customers are delighted to see this. They value us as a strategic partner and welcome the increased investments, which will create a business that is more relevant, more scalable and more agile. Thank you.

David Schwimmer:

Thank you, Neil. And thank you to Lee, Sabrina and Murray as well. So, that concludes the presentation section of this event. I hope this has helped you understand our businesses. I'll now hand over to Paul to take us through the Q&A.

Murray Roos:

Thank you, David. We've received several questions now and we're going to go to those ones. First as a reminder, you can continue sending through your questions on the link from this webcast. And alternatively, you can join the phone lines and put your questions in person. We will switch between the written questions and the phone line as we go. So, before I go into the written questions, I'm just to queue up the operator on the phone line, just to remind you for those on the phone line, how to place your questions. Operator?

Operator:

Thank you. So, to ask you a question on the telephone, please, key star, then one on your telephone keypad. So, you simply key star, then one on your telephone keypad. Thank you.

Murray Roos:

Great with that. We're going to make a start with the written questions that we've had coming through. So, the first one is on workspace and it is how far along the process of rolling out workspace are you particularly in investment solutions and wealth solutions? What has been the feedback so far and how does this then position you against competition?

David Schwimmer:

Thanks Paul. So, as we have been discussing with you all going back over our last few events, the rollout of workspace has been taking place across a number of different parts of the business. As we discussed in July, we had the launch of workspace for banking at the beginning of this year, and that has been going very well. At the end of this year, and going into next year we will see the launch of workspace for FX trading and then other traded asset classes to come after that. I'll turn it over to Sabrina and then Lee in a moment just to talk about the workspace launch in their spaces, but worth pointing out that this is not a quick process. We have thousands of customers and we have to work with our customers and their schedules as we go through the workspace rollout. So, this will be a couple of years in each of the different segments, but again, I would say it's going very well in the different segments. Very good reception. And with that, let me turn it over to you Sabrina.

Sabrina:

Thank you, David. As mentioned earlier, workspace for wealth rolled out earlier this year during the first quarter. So far reception has been strong by our customers and we look to continue to invest, enhance the platform and retain our strong position in the market.

David Schwimmer:

We'll go over to Lee.

Lea Carty:

Thanks, David. I'd like to echo what Sabrina and David have already said about the workspace launch. In particular this is going to be a multi-year process. That said we did release workspace for investment of analyst and portfolio managers earlier this year. And it's been met with some great success, that is over the first four months since the launch we've had over a hundred new clients contract for this service. Going forward, there's going to be a migration of existing clients and the acquisition of new clients.

David Schwimmer:

Thank you, both of you. Paul, back to you.

Murray Roos:

Great. Thank you. So, the next question is on the FX business and his question is, what growth rate should we expect from FX and how much do you think that's going to change when you've implemented some of the changes that you've talked about today?

David Schwimmer:

Thank you, Paul. Let's turn question over to you, Neil.

Neil Penney:

Thank you, David. As I mentioned in the presentation, there are a number of headwinds in the FX market which are helping drive growth. So, first of all the market continues to grow as customers trade more FX. More and more of that volume is being traded electronically, and more and more of what's traded electronically is traded on specialist solutions, such as FXall. Having said that in the short term, the market is subject to volatility. So, what we're focusing on is what we can control, which is ensuring that we're making the right investments to build the capabilities that our customers are looking for in both on FXall and Matching products. When we do that, we're absolutely confident that we will accelerate the growth of FXall, and reverse the decline of Matching. And as I also mentioned that the presentation, even as a market leader, our market share is only six to 7%. There is a huge opportunity to growth as we build the capabilities our customers are asking for.

David Schwimmer:

Thank you, Neil.

Murray Roos:

We're back on to data analytics for the next question. And it is where do the various business segments sit against the FactSet businesses and how do you compete?

David Schwimmer:

Thanks Paul. So, again, I'll go back to our July investor event. And at that session we spent some time talking about the breadth and the scale of our business and how we can operate across geographies, across asset classes, across the trade life cycle. And we see competitors in each of those different parts of our businesses. We don't really see a single competitor across our business given our global breadth, our scale. We do in desktop space, we do see FactSet among a number of others, particularly with respect to wealth and with respect to portfolio management. So, not really appropriate for me to comment more specifically about them or other competitors, but I would just go back to the point that we don't see other competitors matching us across the global scale that we bring, the breadth, the depth of our content and our capabilities across the trade life cycle.

Murray Roos:

Great. Thanks David. Next question is in from Bengali at Deutsche bank, it's on investment solutions, and two-part question. First of all, on the asset based fees, we can see that you were relatively flat over three year period compared to growth against some peers in same period. So, what accounts for that differential, is it about pricing, is it about the assets that you provide, will you expect more growth going forward? And then the second part of the question slightly separate is, can you break out your ESG revenues and how do you commercialize that ESG datasets?

David Schwimmer:

Thanks, Paul. Maybe I'll turn it over to Anna for the first question. And then I'll touch on the second part about the ESG revenues.

Anna:

Thanks, David. I think there's a number of different things to think about here when you're thinking about asset under management revenues. Firstly, we won't have exactly the same mix of assets. Secondly, our pricing structures have some collars and caps around them, which means that we don't always benefit from all of the upside, but we're protected from the risk on the downside. And I guess the third point is our assets under management revenue lags the value of assets under management by about a quarter. So, depending what period you're looking at, you may see quite different results to our competitors.

David Schwimmer:

Thanks, Anna. And then with respect to the second part of the question on ESG revenues. So, we have ESG embedded across different parts of our business and really relatively deeply embedded in the different parts of our business. There are certain products that are ESG specific, where customers want to access them directly. Lee was talking earlier about our corporate ESG dataset, which covers about 10,000 corporates, close to 500 metrics going back almost 20 years. So, a very substantial data set there, and that data set we do see more customers looking to access directly as they look to delve more in a more detailed manner into the data underlying the ESG ratings that they get from various providers. So, that's one area where there is a direct potential for sale. Whereas there are a number of other areas where the ESG data is part of packages, and included in other parts of our business or embedded in other products.

Murray Roos:

Thank you, David. We've got three or four other questions that are still coming through in written form. So, we're going to stick with those for now and after we take in those, I'm going to open up the phone lines. So, the next question that we've got through on the written part of the questions is from Phillip Middleton at Bank of America who says, "You haven't spoken much about Lipper or about IBIS. What are the opportunities that you see here for those businesses?"

David Schwimmer:

Thanks, Philip. Why don't we turn that one over to Lee?

Lea Carty:

Thank you, David. We have discussed Lipper in the context of our data business. It has been embedded within there. It's an important part of our strategy, but just given the time constraints we didn't go into tremendous detail. You're right about that. Lipper's a tremendous brand. It's got an amazing data set in terms of funds and it really is the institutional fund data source of choice out there. And we have quite exciting plans for what we can do with Lipper's fund classification scheme, and also the analytics that Lipper has developed over the years. In the near term, we're very much focused on shoring up and improving the stability of the software that is driving the Lipper data business. That's our focus for the rest of this year really. Going forward, we see quite a bit of upside potential for that.

David Schwimmer:

Lee, any comments you want to make on IBIS?

Lea Carty:

On IBIS in particular continues to be a real strength of ours. That IBIS very much like the ESG data that David was just talking about is threaded throughout a number of our products. It continues to be a real draw, both across our workflow solutions, but also in our data solutions in our QA product.

David Schwimmer:

Right. Thank you.

Murray Roos:

Okay. Got another question on wealth solutions business. This is from Gaethje Cambur at JP Morgan. So, in the wealth business, do top clients typically use both the advisor and investor services offerings and also the operations management business from you both together, and do competitors offer both of those services? So, in terms of the competitive landscape, is this a core differentiation for you?

David Schwimmer:

Sabrina, you want to take that one?

Sabrina:

Yes. Thank you. Our clients actually range in terms of services. We do have clients that use back office operations, plus advisor plus investor services as one combined package. And the reason they do that is the powerful combination and integration of those components allows for advisors to see the same data across all workflows. We also have clients and customers who purchase each of those solutions individually today. In terms of the second question, okay, wait, the second question. From operations management perspective, we are one of the only firms that can offer that front back solution interconnected for our clients. And so, it is a core differentiator of our business today.

David Schwimmer:

Thank you Sabrina.

Murray Roos:

Okay. Going back to another question from Phillip Middleton at Bank of America, this on FX. So, in the FX business, how do your volumes differ between FXall and the Matching service? And the second part to this is, I suspect that FXall is mostly a spot, which suggests given the volumes that is that the yield on FX is much higher than it is on Matching, is that a correct assumption? I

David Schwimmer:

Turn that over to you Neil.

Neil Penney:

Thank you, David. So, for clarity, on both FXall and Matching, we trade both spots and derivatives. I think it's probably clearest if I talk in terms of the revenue earned on those products, rather than the underlying volumes. When you look in Matching, most of the revenue comes from spot Matching, although as I mentioned in the presentation, there is real demand in the industry to increase derivatives into bank swap trading. We've made investments there and we expect to see that grow in future. FXall is a much more balanced mix of spot and derivatives. And you're absolutely right in terms of your question, the higher yield is on FXall. If you think about it, that's the channel where the banks serve their most valuable customers. It's very, very precious business to them. It's the fastest growing part of our business. And one that we continue to invest in to ensure we retain our market leadership.

David Schwimmer:

They you Neil.

Murray Roos:

Okay, I'm going to say one more of the written questions, there are a couple more that have been submitted. If you continue to submit them, we will read them out, but I'm going to get one more written here before we go to the phone line. So, from Ian white, at autonomous, there is several parts of this, so I'll do the first couple of bits first because they relate to FX again. And then I'll go to this question on investment solutions. So, the first part of the question is, given that MiFID II's introduced several years ago, what makes you confident that we should expect FX volumes to continue to transition from single dealer to multi dealer platforms? And are there any particular catalysts you see that might encourage such a shift? And then also within the FX business how do you expect the trend towards dealer internalization to progress over the coming years and how might that also impact your services?

David Schwimmer:

Thanks. Some more good questions for Neil.

Neil Penney:

Thank you, David. All right. Let me take those two in the order you asked them. So, first of all, your question was really around MiFID, and you're absolutely right there was a big bump in electronic trading and move to multi-bank platforms at the time of MiFID. The way I look at it though, is the demand for increased efficiency is ongoing. Our customers are constantly being able to trade more trades faster. And for that they needed specialist solutions like FXall. What MiFID did is essentially say, this trading has to occur, not on direct bank dealer systems, but our multi-packs systems. So, that efficiency drive, which will be ongoing in the industry now finds itself placed directly in the first instant on the solution such as FXall. If I take the second question now that related to trends such as internalization and you're absolutely right, that's been a big trend in the industry, and it's something that's really impacted Matching historically, as banks have changed their trading behavior.

It is something we've absolutely taken into account in the design of our new trading solution for Matching. And I think the right way to think about this is that as I outlined in the presentation, the market continues to grow and the inter-dealer market continues to grow. So, what you're really looking at is shifting patterns of usage within the industry that is overall growing. What we've needed to do, therefore is in our redesign of Matching, realign it from the old world, which was very, very heavily bank focused to the new world, which there's much more of a mixture of both banks and buy side. I'm absolutely confident that we've done this correctly and that when we release the new Matching platform, we'll find it precisely meets the needs of the modern market and that we'll see Matching return to growth.

Speaker 1:

Thanks Neil. Paul.

Murray Roos:

So, the second part of Ian's question is about investment solutions. And he says that during the presentation, you mentioned that icon had limited integration with both up and downstream investment processes. Can you explain a bit more about what you mean by that and what's been missing and how does workspace address this?

David Schwimmer:

Thanks Paul. Lee, you want to take that?

Lea Carty:

Certainly. Thanks, Paul. What I mean is in the process of exploring a potential trade for say an analyst who is evaluating a particular security, for example, their ability to be able to drop that security into a portfolio and evaluate its impact on a portfolio on a hypothetical basis, for example, just was not there. And the technology couldn't really support it. So, the idea of a hypothetical and evaluating that you can go well beyond that, and we want to go well beyond that and actually be able to create a trade and have that trade flow directly into a portfolio. And that describes that particular workflow that analyst or a portfolio manager might have. Workspace is primarily focused on putting into place the technology that allows greater interactivity between different stages of this workflow. In particular respect of workspace for analysts and portfolio managers, we haven't implemented that particular workflow, but we have rolled out the platform and the technology that allows us to start moving in that direction,

David Schwimmer:

Thanks Lee.

Murray Roos:

Okay. So, as we said mindful that we've got analysts who've been waiting on the line to place their questions, we've got four in the queue and we're going to go to those next, and then we'll come back for a couple more questions that we've just received and we will get to, but operator if I can open the line up to you now, please.

Operator:

Thank you. So your first question comes from Arnold Giblatz from XN BNP.

Arnold Giblatz:

On FX you discussed linking up FXall with LCH and, has there been any evidence of taking market share, even trading

Arnold Giblatz:

Going by linking those up. My second question is on the investment solutions. Could you discuss please the contribution from fixed income and the growth rates that are happening there. And thirdly, I'm wondering in terms of the asset-based revenues in investment solutions, one of your biggest clients I think is particularly [inaudible] seems to be shifting towards self indexation. How can you go about mitigating that? And thank you.

David Schwimmer:

Thanks Arnaud. So, first on your question regarding FXL and LCH and the connection there. The connection to be clear has not actually come into place yet so we're not in a position to give you any color on how that's currently working. Anything you would add to that at this point?

Neil Penney:

Yeah. Thank you, David. I would add that demand for clearing is steadily increasing in the industry. The exact timing is uncertain but what is clear is it starting to be on our customer's radar now as something they need to start thinking about. And what's important for us is to be ahead of our customers so that as this becomes a real project for them, our solutions there and something that they can incorporate into their plans.

David Schwimmer:

Thank you, Neil. Let me turn it over to Lee for our second and third questions.

Lea Carty:

Thank you, David. The first question had to do with fixed income and its share and growth and we don't break out share and growth numbers specifically but I will say that fixed income is an important driver across of our business, across investment solutions. Our acquisition of the yield book really gave us a first rate world-class fixed income analytics and we're combining that with the terms and conditions data that Refinitiv brings to this combination. And together we have a capability that is really truly unique there. And we've started to incorporate that in a number of fundamental ways. And I talked about PRS and our fixed income index business earlier but also threading our fixed income capabilities throughout workspace for example, so that we can improve the appeal of our workspace for analysts and portfolio managers for fixed income analysts in particular, our data is fantastic in this area and our analytics are first rate and so we have high expectations for this scope.

Your second question had to do with asset based fees in connection with self indexing. And self indexing is a trend obviously that we're paying close attention to but we haven't seen any meaningful, large losses or anything of that sort from that space at this point in time. Self indexing, perhaps the biggest characteristic I would say about it is that having an investment strategy is not quite the same as being able to implement that investment strategy as an index. That is being able to proceduralize it, being able to implement it in an automated fashion and being able to provide the index administration, the index governance and importantly, the independence of calculation that index providers can put into this space. The combination of all this is quite an expensive proposition and that's why we're keeping an eye on this but we feel like we have a strong position and a strong role to play going forward in this segment.

David Schwimmer:

Thank you Lee. Paul back to you.

Murray Roos:

Yep. We're on the phone line still so if we could take the next question please.

Operator:

Thank you. It's from Bruce Hamilton, Morgan Stanley, please go ahead.

Bruce Hamilton/Morgan Stanley:

Thank you. Yes. Maybe just firstly on the FX side and leading on from Arnaud's question. Is there any way you can help us think about a transize the opportunity from the link between FXhome and Forexclear and similarly in terms of sort of ethics swaps. How meaningful could that be? I don't think it was in any of your initials that revenue synergy targets but is there any way for us to think about market size? How are you going to price the product?

And then secondly on the wealth business, I guess just trying to understand the growth target for sort of low to mid single digit growth when the bigger part advisory in investor services, the market is growing mid high single digits and operations management the market is growing at worst sort of low to mid single digit. And you sound pretty excited about some of the opportunities. So you betting in some risks that you lose clients before workspace brings in some net client traction or is it just a function of the initial downdraft in volumes on the operation? So, I'm just trying to square why that business wouldn't grow at or above the market given your excitement on it medium term.

David Schwimmer:

Thanks Bruce. So Neil, I'll turn it over to you for the first question around the, the linkage with clearing and, and how to think about that and as well as swaps and then Anna, why don't we go to you on for the second question? Okay.

Neil Penney:

Thank you David and Bruce. Thank you for your question. If I start with the clearing opportunity, as I said in the presentation NDF's are a niche part of the market. On the margins we'll see direct revenue growth from adoption of NDS and NDF clearing by the buy side. But I think it's better to look at NDS more holistically in terms of the customer's total trading on our venue. And if this becomes an important part of the market and we don't have it, we won't be the end to end solutions provider that is so important to our customers. So, I would say it's best to think of it overall as something that we're doing as the market continues to evolve in order to ensure that we remain fully able to service our customers.

The second question Bruce related to ethics swaps, and there was a chart in the presentation to look at afterwards but FX swaps are actually the biggest part of the FX market. The daily volume for FX swaps is about $3 trillion. So, it's an enormous part of the market which at this point is under automated. So, we do see significant growth opportunities if we can build the right product and build the right liquidity network and really take a meaningful percentage of that market electronic.

Anna:

And yeah, just talking about the wealth growth rate. So, fundamentally there's two pieces to the addressable market and wealth. You heard from [inaudible] about investor and advisor services which is growing at the five to seven level and the operations management growing more slowly. The issue for us really is mix in that we are more heavily rated than the west of the market to the operations management and that's what holds back the growth. There's no specific risk there Bruce. And you've heard from Sabrina the plans that she has in place to consistently execute here and we will see a consistent improvement in the trajectory as she does

David Schwimmer:

Back to you Paul.

Murray Roos:

Thank you. We're still on the phone lines. I think we've got two further questions waiting and I'll just remind people that the lines are still open if you want to still place questions that way. So, can we have the next question please.

Operator:

From Mike Verna, UBS.

Mike Verna, UBS:

Thank you very much. Just a question with regards to FXall. I think you mentioned how, with the new investments this is a platform that's been under invested in, it's been punching a bit below its weight. It still has maintained its industry leadership position for the past 18 years. I guess over the past let's call it three or four years what has the market share progression been for the company? Just to think about what a turnaround could potentially look like once you get the capabilities to where you want them. Thanks.

David Schwimmer:

Thanks Mike. Not sure we are going into the specifics around market share but Neil can give a little bit of color in terms of how to think about that question.

Neil Penney:

Thank you David and thank you Mike. So, you're absolutely right. We've increased the investment in FXall and it has continued to grow and even without the investment that we think it really needs to deliver its full potential. What we see in the market at the moment is customers as I said, looking to gain more efficiency and in particular the large deals that they trade or the next focus. How do they get the biggest deals broken out and traded electronically? These are typically the ones that are still traded over the phone. And as I mentioned in the presentation, we earn money on the size of the trades rather than the trade count. So, as customers start to move their biggest trades electronic, there is actually a significant opportunity to accelerate growth when we get the capabilities right. And as mentioned in the presentation capabilities such as algos and analytics are key to giving customers the confidence to put those bigger trades through electronically. So, we see a real opportunities ahead.

David Schwimmer:

Next [inaudible].

Murray Roos:

I think we've got one more question waiting, which is from Andrew [inaudible] at City. Andrew.

Andrew:

Thank you. I've got one follow-up for me and then a fresh question probably best for Anna I think. The pull-up for me is just coming back to the target for the investment solutions business. If I look at the board of segments, I think the ambition is to grow more or less in line with the addressing market with the exception of investment solutions where it's starkly been growing below the speed of the addressable market and you're now earning to grow twice the digit so [inaudible] above the speed of [inaudible] addressable market. So, it has a bit more of a step change for your division, some of the others.

And when we separately out into the two segments, it sounds like you're reasonably happy with the index business and the growth. It's more data and work so it's where there is a spec change. And when you look at it you talk about motorcycling growth. You talk about little stabilization. It sounds like really the hockey stick here is workspace. And as you've said, it's going to be a multi-year program. So, is it a case of the shift to this high single digit audits can be very backend loaded or do you think it will be quite linear over time? That was my first question.

David Schwimmer:

Okay, Andrew. You want us we take that one and then you'll come back with another one. It sounds like...

Andrew:

The second one for Anna is a simpler one which is... Often Marie when I look at the capital markets business and I look at that fixed income derivatives in other line, I struggled slightly to [inaudible] violet with the Tradeweb standalone numbers and I appreciate it obviously the polystyrene conversion as we say I for [inaudible] US gap. Are the perimeters very different between the two as well. Just any indication you can provide that. Thank you.

David Schwimmer:

Thanks Andrew. So, Lee can answer the first question. I don't think we're going to get into the kind of specificity that you're looking for there but let me turn it over to Lee to talk a little bit about the drivers of the growth in that business.

Lea Carty:

Thank you, David. I will say a little bit your question focus quite a bit on workspace but we really do see this growth happening much more broadly than workspace. And obviously the business comprises a number of different businesses and they're of different sizes. But I would like to emphasize that one of the things that we're very highly focused on is the benchmarks and indices business and in driving the growth of that business north as well and given the size of that business that has a tremendous amount of impact. And what we're doing there in terms of the focus on sustainable investment concepts, on the focus of switching to a solutions based model with our clients is an important consideration here. That said workspace is also one of our growth drivers. We do see the potential for us to increase the growth rate there both through the improvements in the technology but also broadening the appeal of that product for example, through the fixed income capabilities that I mentioned earlier. So, we do see this growth is happening much more broadly than just in workspace.

David Schwimmer:

Thanks Lee.

Anna:

Yeah. So Andrew, on trade web. Largely three differences and if you want to get into more of the specifics, maybe we take it offline but US dollar Sterling is one. As you say, US gap IFRS is another. The third is they recognize in their revenue data sales to us which we net out. But if you want to get into more detail than that I suggest we take it offline with the IR team.

David Schwimmer:

Great. Thanks Andrew. Paul.

Murray Roos:

Okay. Thank you. So, that's the end of the questions that we've got so far on the phone lines but just as a reminder if you do want to place a question that way there is still time to do that. So, we're going to go back to some of the written submissions that we've got. And the first of those is from Greg Simpson. Exam BNP Paribas, two separate questions. First of all is around customer concentration levels within the wealth business and linked to that and it maybe touches on the question we had just now. How do you manage the risk amongst major wealth customers potentially leaving you? And then the second question is more broadly around retention rates across the different parts of the business but in particular, do we expect to see higher retention rates in the index business above the 90.5% retention rate that we gave in the presentation last time back in July.

David Schwimmer:

Got it. Okay. Why don't we do this, Sabrina you can touch on the customer concentration question in wealth then maybe Anna if you want to spend a moment talking about ASV and how we think about that in the context of retention and then Lee if there's anything you want to add specifically around the index business then we can do it in that way. So, Sabrina over to you.

Sabrina:

Thank you. From a wealth business overall, actually our customer concentration is fairly low in particular and advisor and investor services. Our customer concentration is higher in our beta business and we believe we can proactively manage that risk through the strength of our customer relationships and our solutions.

Anna:

Retention rates. We did quite a retention rate number for data analytics as a whole and we said that that was over 90% at the first capital markets day. At the half year, we move forward to use ASV as a metric and that is the metric we'll be using as a group going forward. What that is, is the value of our subscription contracts set that we are billing at a point in time vis-a-vis that same contract set a year ago. And the reason that we're using that as a metric is it really encompasses three things. It encompasses price, it encompasses new sales and it encompasses that retention. So, you get all three and a rounded view of things. We described that for data and analytics as a whole. So, 90% of the data analytics revenue roughly at the half year and shared that that was 3.9% so ahead of our revenue growth in the first half. In terms of retention specifically in the index business, I'm not going to go into that beyond say it does tend to be slightly higher than our mean.

David Schwimmer:

And then Lee anything you'd like to add in terms of either customer concentration or retention in the index space.

Lea Carty:

No. I would just offer a couple of general observations that our business is quite well-diversified regionally and across products and across asset classes. And that shows up in the strength of our numbers. In terms of retention on an operational basis of course we are very much focused and I talked a little bit in my presentation about the efforts we're making to take advantage of our expanded global reach to improve customer support. It's an obvious area where we can try to improve retention but also in the creation of our team that's focused on developing ABF revenues. These are both areas that we hope will also help us with retention.

David Schwimmer:

Thanks Lee. Paul.

Murray Roos:

We've got a question from Nick at Fiera capital. In fact, we've got three parts of the questions. Let me go to each in turn. First of all, does not owning a hundred percent of Tradeweb limit you in terms of being able to launch new products or integrate with LSEG platforms and how much work have you done so far with Tradeweb to get synergies from the acquisition. So, that's the first part of his question. I'll read out the other two parts as well before we turn to that one. Next bit is about have you been able to launch new products and monetize some of the ESG assets that you acquired and Nick mentioned as asset four and what would be the timeframe for doing so? And then finally, can you discuss the timing and the potential benefits from the FX uncleared margin rules on your business?

David Schwimmer:

Hi Nick. I'll give you an answer on the Tradeweb question in the first instance here then in terms of new products and monetizing ESG products Lee you can share some thoughts on that. And then the FX question that was about uncleared margin rules is that right?

Murray Roos:

That's right.

David Schwimmer:

I'm happy to spend a minute on that in the context of clearing anything you want to say about that in the context of the execution side of the business. So, let me start with Tradeweb and then we'll go in that order. So, we are very pleased with the current construct that we have with Tradeweb. We think that Lee and the team are doing a great job. We are building our relationship with them as we move along here and that's across the two different teams. We also have two members of our team on the Tradeweb board including Marie.

So, we're getting to know each other better and better. I should be very clear about the fact that when we announced the transaction and we announced the synergies for the transaction both on the revenue side and the cost side, we did not include anything at all connected to Tradeweb. We brought Tradeweb into the process relatively late about a week prior to the announcement of the transaction. And we did not think it was appropriate given Tradeweb is a public company with its own governance and separate shareholders that we would preemptively commit them to participating in our synergies. So, nothing in the synergies that we have announced in our working towards now relate to Tradeweb. Having said that, as I said the dialogue is growing between us. The relationship is growing between us and there are a number of potential areas of cooperation as we go forward. So, with that let me turn it over to Lee to touch a little bit about ESG products and ways of thinking about monetizing them.

Lea Carty:

Thank you David. We are very tightly focused on incorporating SI concepts throughout the investment process. It's a major source of growth for us. I'd like to point out earlier this week in fact, we launched ESG versions of our flagship Russel indices. These indices are the dominant indices that are used by the institutional investors, equity investors here in the United States. And so we now have these flagship indices available in ESG tilted fashion. And that's the result of quite a bit of work over the past couple of years. I mentioned earlier the climate will be the world government bond index. This is a fixed income index. It's innovative in its use of SI concepts in connection with fixed income but more so in connection with sovereign issued fixed income.

And we're pursuing that vein even through we're trying to thread ESG deeper and deeper into asset classes like fixed income or elements of fixed income that aren't as penetrated by some of these concepts. And an example there is what we've been doing with our yield book data on structured mortgages where we've now integrated in ESG data from the old Refinitiv in with yield books so that investors can now not only get an understanding of the market risk associated with a given bond but they can now start to look up and understand the ESG concepts associated with that bond. So, this is a major area of growth for us.

David Schwimmer:

Thank you Lee. So, with respect to the third question just very briefly as I think many of you are aware as of the month just past September, we have entered phase five of the rollout of the uncleared margin roll with phase six coming next September. Those phases capture a broader sets of the markets universe in terms of more and more market participants have to be subject to the uncleared margin rule. The uncleared margin rule is not a mandate to clear but what it does is it makes it more expensive if you have these derivative products and you don't clear them. So, we are seeing increasing focus and increasing interest in the clearing product in this case in the FX space. But let me turn it over to Neil to touch on some of the dynamics that he sees at the execution level.

Neil Penney:

Thank you, David. Just to emphasize your point, the direction of travel of the industry is very clear. The pace at which the buy-side is moving to clearing is less predictable and what's important for us is to be there for when our customers are ready. I think it's well worth reiterating the value of end to end solutions and the value our customers place on it. For many, many of our customers being able to come to us and get an end to end solution that will have clearing integration when they need it and will have analytics when they need it and will have workspace integration from and so forth when they need it is a key part of the value proposition. And we have to keep ahead of our customers' needs so that when we begin to sell, they can see an end to end proposition. So, I think of this as future work and it will come in very useful. The exact timing is not predictable.

David Schwimmer:

Thank you, Neil. Nick thank you for those questions. Paul.

Murray Roos:

So, we've got three more written questions to get through. First of those is from Johannes Toulmin at HSBC. First part of this is you gave a total addressable market growth for all of data and analytics. Can you also give one perhaps for the FX revenues as well, please? And then the second question on FX still on page 66 which was part of the FX section, there are some competitors you've included in your calculations. Can you say which ones they are and the market share for the group looks about 42%? Where do you think that level can go now?

David Schwimmer:

Okay Johannes. I think in some of our remarks, we've come into specifically about the challenges around providing a total addressable market in the FX space given the dependence on market volatility and transaction volumes but I'll turn it over to Neil in a moment as the expert in the space he can talk a little bit about the trends that we have seen historically as well as broadly speaking the competitive space. So Neil, over to you.

Neil Penney:

Thank you, David. Just to go back to something I said in the presentation, the overall size of the market has grown at about 9% annually for the last few years. Now, when you translate that into revenue terms, generally as customers trade more they pay less per unit volume. Just like if you talk twice as much on your mobile phone next month the bill won't double. So, the kind of the revenue size of the market is growing slightly less than 9% but nonetheless, it is clearly a growing market and customers are looking to trade more and more of that volume electronically. Your second question related to who exactly are our competitors. I'll tell you how we derive the data. The BIS surveys that we referenced in the presentation, they actually categorize into execution types. So, if you look in the BIS survey which is public data and you just look at the execution types that correspond to FXall and matching, you'll find that 2.8 trillion number that we quoted.

And then the final question really was how big can that 42% that represents us and our competitors go. I'll go back to something I said earlier. There's a constant push on customers to move their trading electronic and to do it on specialist solutions such as we provide. The key to getting that bubble bigger is to make the right investments that enable customers to move their high volume trades from voice trading directly with their banks onto solutions such as ours. And that's a large part of where the investment in FXall has gone. So, I do think we will see some measurable increases in that 42% and hopefully they will exactly align with the investments that we've made.

David Schwimmer:

Thank you, Neil.

Murray Roos:

Next question comes from Mithun at Fidelity. First comment is, it's good to see the customer benefits from linking FXall matching an Fxclear. Do such synergies also exist for linking Tradeweb with LCH and will that help to accelerate the growth?

David Schwimmer:

Thanks for that question. So, we already have what I would say a market linkage between Tradeweb Swap Execution Facility, the SEF and Swap Clear within LCH. So, are there opportunities to make that more seamless and more efficient for our customers in the same way that we are doing that with FXall and Forexclear? Probably. I should also mention that while we have these I'll call them vertical linkages, we continue to be fully committed to our open-access model. And so, as you may know, a number of our competitors have vertical silos where they do not have open access. If you are executing with them you have to clear with them.

We continue to be very committed to our open access model where if you execute somewhere else you can clear with us. If you execute with us, you can clear somewhere else. And we think that open access model is the right model for our customers. It is a customer friendly model and we will continue having that model. Marie, I don't know if you have anything else you want to add in terms of some of the linkage there or with Tradeweb but if so, feel free.

Marie:

No, thanks.

Murray Roos:

Okay. We're onto what I think is the last of the questions now. This comes from Phillip Middleton of Bank of America. So, Phillip is saying you've mentioned workspace more than I expected. So, how important is it to you? What percentage of your revenues come via this? And in the past, you seem to refer to it as more of a distribution channel but the way in which you're terming it looks like it could be much more of a material growth source for the different divisions. Is that the right way to think about it?

David Schwimmer:

So Philip, thanks for the question. And I don't know if this is a disappointment or not but no change in terms of both how it works and how we think of it. It is a distribution channel but we've always said that it is an important distribution channel. So, we view it as the key human distribution channel for us going forward. We of course always also have electronic feeds. We have partnerships. We have on-premise and then we have the cloud distribution which is becoming increasingly important. But you've heard us talk about it today because it is an important part of the distribution to the human customers that we interact with. So, I'll pause there. If anyone else has anything that they want to add on that either Lee or Sabrina feel free but otherwise no change in terms of how we are thinking about the importance of workspace as a distribution channel.

Sabrina:

Covered it nicely. Thank you, David.

Murray Roos:

Okay. Well, look, I think that brings us to the end of the Q and A sessions. So, let me hand you back to David just to conclude.

David Schwimmer:

Well thank you all for your time today and for your questions. We look forward to talking to you again with our third quarter results on October 22nd. And with that, thanks again. We will now close the event.