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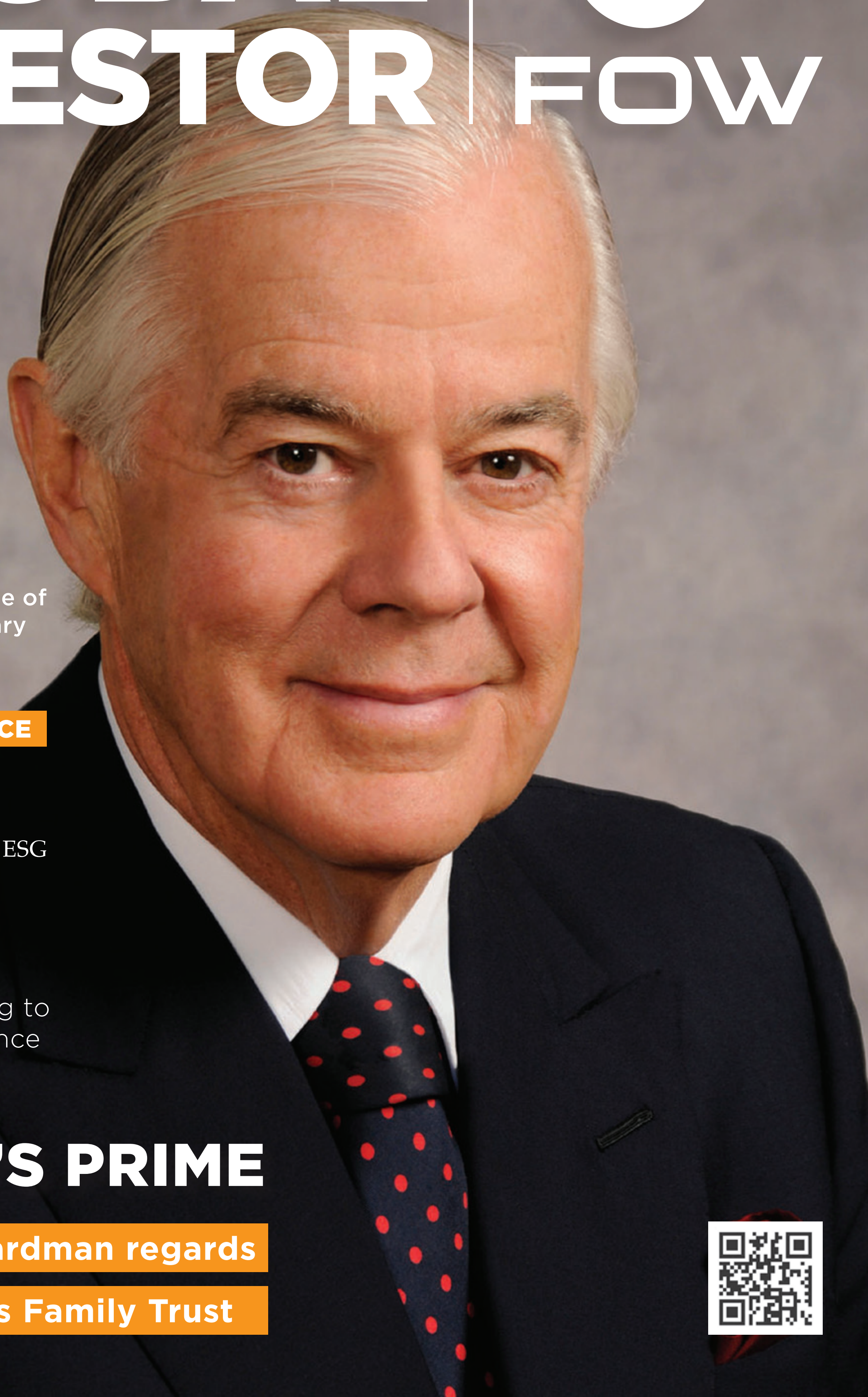

Custody

INDOS highlights value of independent depositary service provider

SECURITIES FINANCE

EXPERTS MET TO DISCUSS DIVERSITY, DIGITALISATION AND ESG

+ Derivatives

Exchanges are trying to strike the right balance on tick sizes

OPTIMA'S PRIME

CEO Dixon Boardman regards life with Forbes Family Trust

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The intangible nature of culture

In this issue's cover feature, Optima Fund Management talks optimistically about the future of the New York-based fund of hedge funds now it is part of Forbes Family Trust.

Optima was founded by Boardman in 1988 when the firm launched its long/short equity fund of funds and has been run by the charismatic chief executive ever since so the prospect of Optima becoming part of the larger FVM Holdings, the parent of Forbes Family Trust which is itself owned by Wealth Partners Capital, is potentially disruptive.

Boardman is mindful of this and is quick to stress it's business as usual for his firm.

Optima Fund Management will continue to be headquartered in New York (Forbes Family Trust is based in New York City, Philadelphia and Palm Beach).

Boardman will continue as chief executive office and has taken up the post of Vice Chairman of Forbes Family Trust. All Optima management and team members will remain in place and the firm will continue to invest with the same managers and the same strategies. The client interface and level of service will also remain unchanged, the chief executive said.

Mergers and acquisitions are often couched in terms of synergies – Optima's alternative asset management expertise is attractive to Forbes Family Trust at a time when most are predicting the end of a ten year bull run – or, in the case of larger asset managers or investment banks, cost reductions.

More intangible however is the cultural fit between the firms, something that is arguably even more important when it comes to high-end boutiques like Optima and Forbes Family Trust.

In the April/ May issue of Global Investor, James de Uphaugh, the chairman and chief investment officer of the equity boutique Majedie Asset Management, talked about the culture that he and his chief executive Rob Harris have created at his company and why this is the lifeblood of the firm.

De Uphaugh was clear that any potential M&A activity would have to respect the Majedie culture because, without that, the company does not function.

Similarly, Bill Prew, the chief executive of INDOS Financial, knows he faces a unique set of challenges when it comes to transactions. INDOS is the only independent provider of depositary services in a market that is dominated by depositary service providers that are attached to a fund administrator that is part of a larger financial group.

Prew recognises that a sale to one of its rivals would completely undermine its raison d'etre. Prew tells Global Investor in this issue: "We have had approaches from fund administrators but it would call into question our core business proposition which is based on independence."

Someone who is living the challenges of managing a merger is Intertrust chief executive officer Stephanie Miller, who completed on June 18 the $330m (£255m) acquisition of US hedge fund administrator Viteos.

She said at the time of the transaction: "The combination of these world-class businesses enhances our global position in fund services, expands our presence in the US and unlocks many opportunities to cross-sell our products and services."

Miller added: "It will provide tremendous benefits to our existing clients through advanced technology, a digitised delivery model and a solution-oriented service suite. With the addition of over 700 employees including 130 technology experts, I am particularly excited for the future innovations that our combined organisation will bring to the industry."

There isn't a huge overlap between Intertrust and Viteos. Viteos is a tech-heavy fund administrator that derives virtually all of its revenue from the US whereas Intertrust is largely European with only 17% of its income coming from the world's largest investment market.

Again the cultural fit between the two firms is crucial if Viteos is to maintain and even improve its performance under its new owner and this is something that needs to be carefully managed. ■

Luke Jeffs,
Managing Editor,
Global Investor Group

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MANAGEMENT
General manager Will Browne
Tel: +44 (0) 20 7779 8309
will.browne@globalinvestorgroup.com

EDITORIAL
Managing editor Luke Jeffs
Tel: +44 (0) 20 7779 8728
luke.jeffs@globalinvestorgroup.com
Securities finance editor Andrew Neil
Tel: +44 (0) 207 779 8858
andrew.neil@globalinvestorgroup.com
Derivatives editor Louisa Chender
Tel: +44 207 779 8248
Louisa.Chender@globalinvestorgroup.com
Special Reports Editor Louise Fordham
Tel: +44 (0) 207 779 8983
louise.fordham@globalinvestorgroup.com
Derivatives reporter James Thursfield
Tel: +44 (0) 207 779 8858
james.thursfield@globalinvestorgroup.com
Design and production Antony Parselle
aparselledesign@me.com

EVENTS
Head of events Yasmin Okolo
Tel: +44 (0) 20 7779 8109
yasmin.okolo@euromoneyplc.com
Events manager Velida Cajdin
Tel: +44 (0) 20 7779 8188
velida.cajdin@globalinvestorgroup.com
Events Assistant Jacqueline Onyenze
Tel: +44 (0) 207 779 8061
jacqueline.onyenze@globalinvestorgroup.com

BUSINESS DEVELOPMENT
FOW Head of Global Business Development
Hanna DeBank
Tel: +65 6224 1040 / Mob: +65 8766 9841
hanna.debank@fow.com
MENA & emerging markets director
Zara Mahmud
Tel: +44 (0) 20 7779 8478
zara.mahmud@globalinvestorgroup.com
Reprints Christine Jell
cjell@globalinvestorgroup.com
Divisional director Jeff Davis
Chairman Leslie Van de Walle
Chief Executive Andrew Rashbass
Directors Jan Babiak, Kevin Beatty, Andrew Billingal, Tim Collier, Colin Day, Tristran Hillgarth, Imogen Joss, Wendy Pallot, Lorna Tilbian

SUBSCRIPTIONS
UK hotline (UK/ROW)
Tel: +44 (0)20 7779 8999
US hotline (Americas)
Tel: +1 212 224 3570
hotline@globalinvestorgroup.com

RENEWALS
Tel: +44 (0)20 7779 8938
renewals@globalinvestorgroup.com

CUSTOMER SERVICES
Tel: +44 (0)20 7779 8610
customerservices@globalinvestorgroup.com

GLOBAL INVESTOR
8 Bouverie Street, London, EC4Y 8AX, UK
globalinvestorgroup.com

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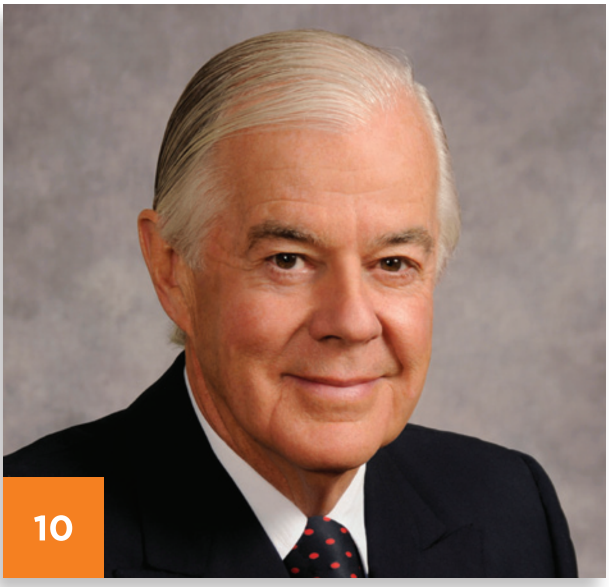
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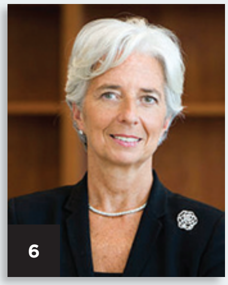
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Trading Places

Asset management, securities finance, custody and the derivatives industry saw more senior moves in the first half of 2019


ROB BAILLIE


CHRISTINE LAGARDE

ASSET MANAGEMENT:

Baillie to run State Street's NA asset owner unit

Rob Baillie has been picked to lead State Street's asset owner business in North America.

The Boston-based bank announced in June the executive would take on additional duties on top of his exiting Canada responsibilities.

Baillie joined State Street six years ago in Toronto from Northern Trust.

His new role will see him report to John Lehner, State Street's head of global services and its global asset management segment.

Baillie's appointment is the latest in a series of recent changes across staff and technology at State Street, including plans to axe 1,500 jobs as part of a new cost cutting programme.

ECB nominee Lagarde in dovish camp – Morgan Stanley

Christine Lagarde has been nominated to become the next president of the European Central Bank (ECB), an appointment Morgan Stanley reckons could re-ignite quantitative easing (QE).

Lagarde, who has temporarily relinquished her responsibilities as managing director of the International Monetary Fund (IMF), is the European Council's preferred pick to take over from Mario Draghi at the end of October.

In a note to clients, analysts at Morgan Stanley said a formal approval by EU executives in Brussels would increase the chances of another round of QE.

"While our call that QE II is likely depends on several factors, an approval would increase our conviction, given her previous dovish remarks," wrote Daniele Antonucci, the bank's chief euro area economist.

"Market participants, in our view, will probably place her in the dovish camp."


MICHAELA LUDBROOK

CUSTODY:

Ludbrook to lead DB sec services, Gallagher to depart

Michaela Ludbrook is to take over from Fiona Gallagher as the head of Deutsche Bank's securities services business.

In a memo sent to staff in early July, Stefan Hoops, who heads up Deutsche Bank's global transaction banking (GTB) unit, announced the changes.

New York-based Ludbrook will assume leadership of the firm's global securities services business within GTB with immediate effect.

This is in addition to her current role as the head of GTB Americas, a position she has held since October 2018.

She joined Deutsche Bank in 2014 after seven years at Goldman Sachs.

Gallagher, who has led securities services since 2018 and also served as the chief country officer for Ireland, has decided to leave Deutsche to take up a new opportunity, according to the memo.

BNP Paribas hires Gardner for sec services sales role

BNP Paribas Securities Services has hired Tom Gardner as head of asset managers, asset owners and alternative investors sales for UK, Middle East and South Africa.

The French bank said at the end of June Gardner will be responsible for new sales with institutional investors across the respective regions and markets.


TOM GARDNER

He joins BNP Paribas from eFront, a software provider to alternative investors, where he was chief sales officer.

BlackRock announced in March it was acquiring alternative technology platform eFront for $1.3 billion.

Prior to eFront, Gardner was head of European sales for fund administration, hedge fund and trading at FIS.

He will be based in London in his new role at BNP Paribas and report to Emma Crabtree, head of asset managers, asset owners and alternative investors sales, Emea.

The French bank's custody arm has added to its UK, Middle East and South Africa sales over the past 12 months.

SECURITIES FINANCE:

Sourigon lands top job at Natixis as Krishnan exits

Simon Sourigon has replaced Anand Krishnan as global head of securities finance at Natixis, Global Investor can reveal.

Sourigon is relocating to New York from Paris to take over from Krishnan, who has resigned to set up his own business, according to sources.

Krishnan was responsible for developing and leading all securities finance activities at Natixis, including equity finance and repo.

Those responsibilities now fall to Sourigon, who has worked for the French bank for over 15 years.

His most recent title was global head of security optimisation.

Finra records show that Krishnan joined the Natixis at the start of 2017 after eight years working for Deutsche Bank.

Pirum hires collateral, stock loan expert Bastin

Securities finance post-trade vendor Pirum has hired Michelle Bastin.

The London-based executive joined the firm in June as a business support specialist, Global Investor understands, having most recently worked at HSBC for over four years.

Earlier in her career Bastin spent close to a decade at Lehman Brothers as a director focused on collateral management.

She then spent two years at Nomura between 2009-2011 to facilitate the merger of the Nomura and Lehman collateral teams.

The firm announced in June an agreement with Wematch - a new breed of tech platforms helping traders match their interests

DERIVATIVES:

ICE taps ex-Curve Hamilton as Rhodes exits

Intercontinental Exchange (ICE) has appointed ex-CurveGlobal Steve Hamilton to replace global head of financial derivatives Chris Rhodes when he leaves in July.

Rhodes is set to leave the exchange mid-July to join London-based prop firm Tyler Capital at the end of summer.

He returns to the prop world having joined from Arc Derivatives, where he was a senior trader until tapped by ICE in February 2015.

Rhodes was initially hired as head of interest rates to boost trading in the segment following the migration of products from the NYSE Liffe platform to ICE systems.

He was then promoted to global head of financial derivatives across ICE Futures Europe and ICE Futures US in May last year.

STEVE HAMILTON

Sucden chief to step down at year-end

Sucden Financial's long-standing chief executive Michael Overlander is to step down at the end of the year to be replaced by deputy chief Marc Bailey.

Overlander, who has been with the commodities broker since it was formed in the early 70s, will stay on at the group as non-executive chairman from January 1 2020.

He has been a board member since 1984, overseeing the firm as it grew from a single commodities house to a diversified brokerage business.

As non-executive chairman he will continue to manage key relationships, such as the London Metal Exchange.

Commodities veteran and deputy chief exec Bailey will take over to lead the business as of the beginning of next year.

He will be responsible to the chair and the board, and tasked with delivering the firm's growth strategy, targeting existing and new business areas.

Bailey joined Sucden in 2015. Prior to that he was managing director and chairman at Bache Commodities, before it was taken over to form Jefferies Bache. ■

MARC BAILEY

MICHAEL OVERLANDER

Breaking stories from Global Investor Group

Here are some top stories you may have missed at GlobalInvestorGroup.com

ASSET MANAGEMENT:

State Street case should make funds check fees – expert

Investment funds should review their custody fees after a US investigation uncovered years of mark-ups by State Street, experts have warned.

The Securities and Exchange Commission said in late June the Boston-based bank had agreed to pay $88 million (£70 million) to settle claims it overcharged mutual funds and other clients over a seventeen year period.

"This case should prompt fund financial officers to review the charges imposed by the custody bank," experts at Cipperman Compliance Services wrote.

MSCI to move Kuwait to emerging market list

Index compiler MSCI plans to upgrade Kuwaiti equities to its flagship emerging market index amid ongoing work in the country to introduce central clearing, short selling and securities lending.

The New York-based firm said in late June it will reclassify the MSCI Kuwait Index from frontier to emerging in May 2020, providing certain enhancements are made to account structures and investor identification numbers.

CUSTODY:

Citi, Goldman-backed fintech signs digital asset deal

A digital asset fintech backed by Citi and Goldman Sachs will see its custody technology used by an upcoming crypto exchange.

Israel-based Unbound Tech, a firm set-up to protect bitcoin and other virtual currencies, has signed a deal with London-based Archax, which plans to launch later in 2019 and describes itself as an institutional crypto exchange.

Fund admin deal-making to continue – survey

Mergers in the fund administration market are set to continue according to a poll by eVestment.

The US analytics firm published a study in July looking at companies tasked with verifying assets and valuations of hedge funds, private equity houses and other alternative managers.

"Participants almost uniformly expected the M&A trend to sustain moving forward," eVestment stated after surveying 30 industry players.

SECURITIES FINANCE:

Deutsche's lending arm survives restructuring

Deutsche Bank's Agency Securities Lending (ASL) business is returning to the Global Transaction Bank (GTB) division, Global Investor understands.

Deutsche Bank announced in early July plans to exit equities trading, cut 18,000 jobs and sell its electronic trading and prime finance divisions to French rival BNP Paribas.

The firm's ASL business, which generates securities lending revenue for clients' equity and fixed income long positions, will be retained and return to its former home – the GTB division.

Billions of data entries in US stock loan lawsuit

A securities lending lawsuit will require prime broker defendants to produce billions of data entries after requests from pension fund plaintiffs.

In a letter to a US judge in June, Damaris Hernandez, partner at law firm Cravath, said defendants had been "working diligently" to answer plaintiffs' extensive questions about stock loan databases and data samples.

The case involves Morgan Stanley, JP Morgan, Bank of America, Goldman Sachs, Credit Suisse and UBS.

DERIVATIVES:

Notional "a poor measure" of swaps - Quintenz

A Commodity Futures Trading Commission (CFTC) commissioner said notional value is a "poor measure" of activity in the swaps market following the publication of a report on the swap dealer de minimis exception.

The CFTC published in early July its staff report following a study into alternative metrics for the calculation of the swap dealer de minimis threshold.

"The report clearly demonstrates that notional value is a poor measure of activity in the swaps market," commissioner Brian Quintenz said.

FCA defends rules on CFD trading

The Financial Conduct Authority (FCA) has defended its position on contracts for difference (CFDs) following criticism from the European Securities and Markets Authority (Esma), stating that it did not think it would be "practical" to apply its rules to overseas firms.

Esma published on July 2 an opinion stating that, whilst overall it felt the FCA's national measures (released on July 1) for CFDs were proportional, in a few areas it did not feel this was the case.

The British regulator said: "We did not think it would be proportionate, practical or effective to seek to apply our rules to overseas firms not supervised by the FCA and subject to different rules in their own jurisdiction." ■

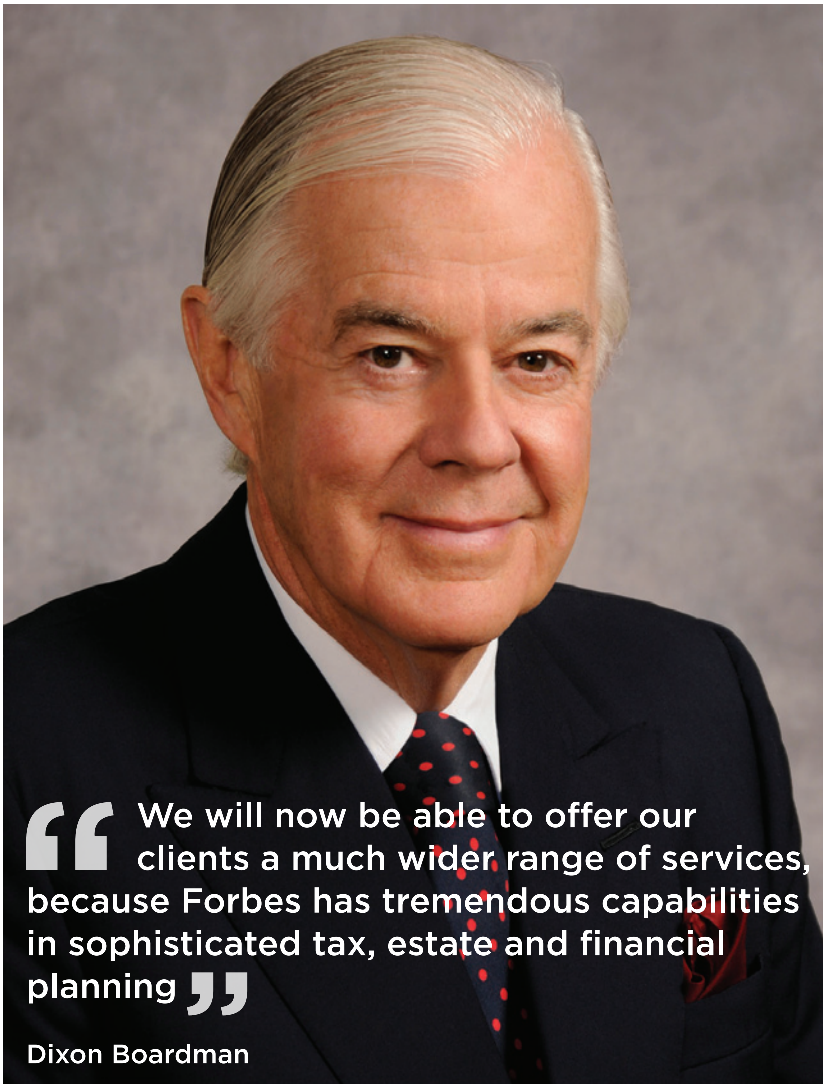
Optima eyes next chapter with Forbes Family Trust

Speaking to Global Investor's **Luke Jeffs** in London on the eve of the deal, **Dixon Boardman** said he was excited about the next chapter in the Optima story and said the combination of Optima and Forbes Family Trust is a "win-win".

More than thirty years after Dixon Boardman set-up Optima Fund Management, the chief executive of the New York-based fund of hedge funds has sold it to Forbes Family Trust.

FWM Holdings, the parent company of the multi-family office, acquired Optima Fund Management for an undisclosed sum on July 1.

The deal combines Forbes Family Trust, which manages $5 billion for more than 50 families, with Optima, one of the most experienced US alternative investment managers with $2 billion on its books.



Boardman said Forbes Family Trust liked Optima because it complements the Trust's established wealth management capabilities: "They recognise it is imperative for them to incorporate high-quality, effective alternative investment strategies into their clients' investment program in order to enhance their diversification."

The Optima founder and chief executive added: "Furthermore, I believe they also felt that after a 10-year bull market it is probably a very good idea for their clients to be hedged by having a greater allocation to alternative investment strategies."

Similarly, Forbes Family Trust effectively means Optima, which has always been an alternative investment specialist, has another string to its bow.

Boardman said: "We will now be able to offer our clients a much wider range of services, because Forbes has tremendous capabilities in sophisticated tax, estate and financial planning. In addition, we will gain a high powered distribution partner with access to a highly sophisticated global clientele."

Forbes Family Trust, which served exclusively the family that still bears its name until 2009 when it opened to other families, is owned and controlled by Wealth Partners Capital, which manages some $15bn.

Wealth Partners Capital investors include: the Affiliated Managers Group, which is listed on the NYSE and manages $800 billion; Roy Zuckerberg, former vice chairman of Goldman Sachs; and Tom Lee, the famous LBO manager, who has been a friend to Boardman for years.

But, for Optima itself, it's business as usual. Boardman said his firm will continue as before, with its headquarters in New York (Forbes Family Trust is based in New York City, Philadelphia and Palm Beach).

Boardman will continue as chief executive officer of Optima Fund Management and has joined Forbes Family Trust as its Vice Chairman.

All Optima management and team members will remain in place and the firm will continue to invest with the same managers and the same strategies that it has for 30 years. The client interface and level of service will also remain unchanged, the chief executive said.

Boardman is the first to admit hedge funds have underperformed in recent years as economic policy such as Quantitative Easing drove the US equities markets to unprecedented levels.

"Looking at the recent history of the hedge fund industry, although some funds have done extremely well, the majority has lagged the broad equity market indices. Keep in mind, though, that in a bull market, it should be no surprise that almost by definition hedged strategies lag long-only indices."

"Looking at the recent history of the hedge fund industry, although some funds have done extremely well, the majority has lagged the broad equity market indices"

Boardman added: "Furthermore, large parts of the industry comprise funds that cater to an institutional investor base that is seeking stable or uncorrelated returns, not market beta."

The Optima chief executive feels the hedge fund industry has changed in the past decade as more institutional money has been allocated to these strategies.

Boardman said: "The classic, high-performance hedge fund of yesteryear is very much the exception. As Stan Druckenmiller, the legendary investor, pointed out in a recent presentation, there are far too many hedge funds out there."

A surfeit of hedge fund offerings – anecdotally there are more than 10,000 hedge funds today compare to little more than a hundred when Optima launched in the late Eighties – makes companies like Optima more important as they can help investors sort the wheat from the chaff.

Boardman said: "There may be thousands of hedge funds, but there are not thousands of geniuses running them. For investors seeking superior returns, it is critical to be highly selective. But you cannot be selective – and effective – unless you have years of experience in the business. You also must have access to the best managers, many of whom require prohibitively high minimum investment amounts. Because we launched 30 years ago - in the heyday of hedge funds – we have the experience and the access."

He added: "The great opportunity we see is to find managers who, first, have demonstrated a real "edge" in managing money, and, second, have generated superior performance."

Optima Fund Management launched in April 2016 its STAR strategy, an innovative approach that allows investors to access hedge fund performance without the drawbacks associated with using these kinds of strategies.

High fees, particularly performance fees, have long been a problem for investors interested in hedge funds who also cite a lack of liquidity, limited transparency, high minimum investments and even the unfriendliness of hedge fund managers (not an accusation that could be reasonably levelled at Boardman by the way) as reasons for eschewing alternative investments.

Under US regulations, hedge funds that manage funds of more than $100 million are obliged to report their holdings on a quarterly basis. This disclosure shines a light on these managers' otherwise secretive portfolios and has created the opportunity for Optima to implement its STAR strategy.

Optima's milestone over its thirty years:

1988:	Launches Long/Short Equity Fund of Fund
1991:	Launches Global Macro Fund of Fund
1993:	Optima Fund Management LLC recognised as SEC Registered Investment Advisor
1999:	Launches Multi-Strategy Fund of Fund
2000:	Strategic Alliance with BNY Mellon Wealth Management
2004:	Implementation of Optima Portfolio Evaluation Research & Accounting System
2007:	Launches Multi-Manager Strategy
2009:	Launches REIT on US farmland
2016:	Launches Optima STAR Strategy

Source: Optima Fund Management

Boardman continues: "STAR consists of the five highest conviction holdings of ten hand-picked, top-performing hedge fund managers. The strategy provides daily liquidity, no lock up, no incentive fee, and charges a flat annual management fee."

He added: "The STAR Strategy combines two powerful investment principles. First, long-term investment success is most likely to come by allocating to the "best and the brightest" money managers you can find. Second, those "best and brightest" money managers are most likely to outperform if they concentrate on their highest conviction stock ideas. As Warren Buffet once put it, "Diversification may preserve wealth, but concentration builds wealth."

The strategy's portfolio is constructed by following a three-step process. First, Optima screens its universe of hedge funds to identify the 10 most attractive, based on quantitative measures of performance, volatility, correlation, etc. as well as qualitative assessments of each manager.

For the record, the 10 managers follow different but complementary investment approaches: three focus on growth; three focus on value; and four are opportunistic

Next, Optima selects the top five positions by market value from each of the chosen managers, using public filings. Finally, risk guidelines are applied to check liquidity, sector concentrations and other factors.

The result is a portfolio of 50 "highest conviction" equities from 10 "best in class" hedge fund managers which is adjusted over time as new public filings come to light.

Optima's value is selecting the right managers to secure the best chances of consistent performance and this is where the firm's experience is crucial. The STAR Strategy had returned at the time of writing 45.41% since its launch on April 28 2016.

Optima currently has a range of strategies, largely based on the US market, but it is also looking to tap the growth potential in Asia with its latest venture - a strategy targeting Asia ex-Japan run by investing legend Robert Lloyd George.

> "STAR consists of the five highest conviction holdings of ten hand-picked, top-performing hedge fund managers. The strategy provides daily liquidity, no lock up, no incentive fee, and charges a flat annual management fee."

Boardman said: "Looking at investment opportunities today, I believe that we are entering the Age of Asia. According to the IMF's World Economic Outlook, the economies of Emerging and Developing Asia are projected to grow at 6.3% this year, more than triple the pace of 1.8% for Advanced Economies.

"Moreover, China and India are undergoing an extensive economic transformation, joining the ranks of the world leaders in technology and science. Their financial markets are growing in size and sophistication. While the region has long been thought of as manufacturing-driven, the consumer sector is expanding rapidly as the middle class grows and incomes rise."

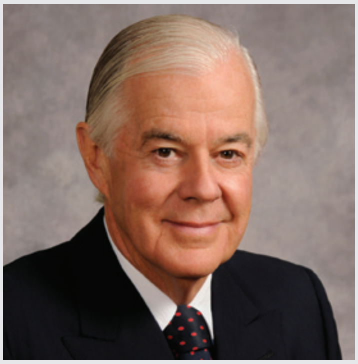
Boardman feels the time is right to enable his and Forbes Family Trust's clients to tap these Asian growth opportunities.

"Even though one-third of global equity value is represented by Asia, the region is woefully underrepresented in institutional portfolios. However, capital is expected to flow into the region, particularly as Chinese A-shares become a larger allocation in the FTSE Russell and MSCI indices."

The LSE Group-owned FTSE Russell added Chinese A-shares to its FTSE Emerging markets Index on June 24, following MSCI's inclusion of a first raft of Chinese shares in its Emerging Markets Index in May.

Boardman concluded: "Our forte has been identifying great money managers and great investment opportunities. With our newest fund, we believe that we are creating access to the world's most dynamic region and the region's most dynamic investor." ■

Biography



D. Dixon Boardman, Partner, Founder, Chief Executive Officer

Boardman founded Optima Fund Management and is the Managing Member of Optima Group Holdings LLC.

Prior to forming Optima, Boardman advised high net worth individuals, first as a Senior Vice President at Kidder, Peabody, where he was one of the 20 leading stockbrokers in the firm, and then at UBS PaineWebber, where he was a member of the Chairman's Council.

Boardman has served as Chairman of the Special Projects Committee of Memorial Sloan Kettering Cancer Center and is currently a member of the President's Council of Memorial Sloan Kettering Cancer Center. He is a Director of Florida Crystals Corporation and an Advisory Board Director of J.C. Bamford Excavators (U.K.).

Boardman attended McGill University.

TMX leads the field in clean tech and cannabis

Canadian exchange **TMX Group** is establishing itself as the international centre for listing innovation stocks in fast-growing sectors such as clean technology, renewable energy, life sciences and cannabis, writes **Luke Jeffs**

The Toronto-based exchange had a mixed 2018 overall with its main TSX market reporting an 11% drop in the number of listings compared with the previous year while its growth market TSX Venture (TSXV) saw a 10% rise in the value of IPOs despite a 7% dip in the number of listings.

Yet it is in innovation sectors such as clean technology, bio technology, sustainable energy firms and cannabis where TMX is making a name for itself.

In 2018, TMX saw a record 59 new listings in the innovation sector with total equity capital raised of $14.7 billion which compares favourably to the previous records of 41 new listings in 2016 and $11.3 billion raised in 2015.

Overall the mixed listing and equity trading environment has continued into 2019 but the exchange has kept up its momentum in these growth sectors with various innovation company and fund listings in the first half of the year culminating in the late May flotation of Charlotte's Web Holdings, a US firm that makes hemp-derived CBD products.

Kevin Sampson, president, equities trading at TMX Group, has been with the firm for 12 years and said that in that time he has seen the exchange group evolve into a truly modern, international marketplace.

Speaking to Global Investor, Sampson said: "Through our various business lines, TMX has an established market presence in derivatives and cash trading as well as clearing services, and we have a growing data and analytics business. TMX is truly a diverse and modern exchange group and our mission is to power growth for clients across the world."

TMX, like many of its large international exchange peers, has been gradually opening up to international customers but, in the case of TMX, it was the December 2017 acquisition of energy platform Trayport, which is strong in Europe and Asia, that catapulted the Canadian group on to the global stage.

TMX currently has a presence in the US, the UK, Israel and Hong Kong. In October 2018, Montreal Exchange moved forward its market open by four hours so the derivatives arm of TMX Group was open during the European trading day.

The exchange said: "This initiative is in line with MX's mission to be a client focused and globally recognised leading derivatives exchange, as it allows domestic and international clients to manage their exposure to Canadian markets during non-regular Canadian business hours."

Sampson told Global Investor: "The nature of our client base is evolving as we extend our reach into global markets. We currently have some 250 that are domiciled outside of Canada and hundreds of others that have extensive operations and projects outside of Canada. TMX is a global business. As we like to say Canada is our address, but the world is our addressable market. As we seek out new opportunities to grow our business globally, a key opportunity for my team now is

> "Not only do we focus on the cannabis producers, however, as there are also many other related companies that have come to list on TMX"

to tap into new investment flows from around the world." As of December 31 2018,TMX Group had 225 international (non-Canadian) listings of which 63 were innovation companies.

Sampson said "over 40% of our average daily volume originates from outside of Canada" and this number is likely to increase with the exchange participating in business development campaigns such as Trade Canada targeting the world's top trading cities.

TMX Group has three equities markets: the blue chip and best known market is the Toronto Stock Exchange (TSX); TSX Venture (TSXV) serves early-stage companies; and the Alpha Exchange is an alternative trading system.

Sampson believes TSX and TSXV in particular work well together.

"Together TSX and TSX Venture operate as a unique and effective two-tier market. In fact, 20% of the constituents in Canada's leading equity index graduated from the Venture market. The entire TMX ecosystem is built to support the growth of these companies and to offer investors opportunities to participate in that growth."

And it is the innovation stocks on TSX and TSXV that are generating the most interest. "Canada's capital markets legacy is in mining and energy firms and today we still list more mining companies than any other exchange in the world. More recently, however, TMX has successfully replicated this success in other new sectors such as Innovation, which includes Cleantech, Biotech and of course, cannabis," said Sampson.

The first cannabis listing at TMX was five years ago so the group can rightly claim to have supported the evolution of the cannabis industry since its inception.

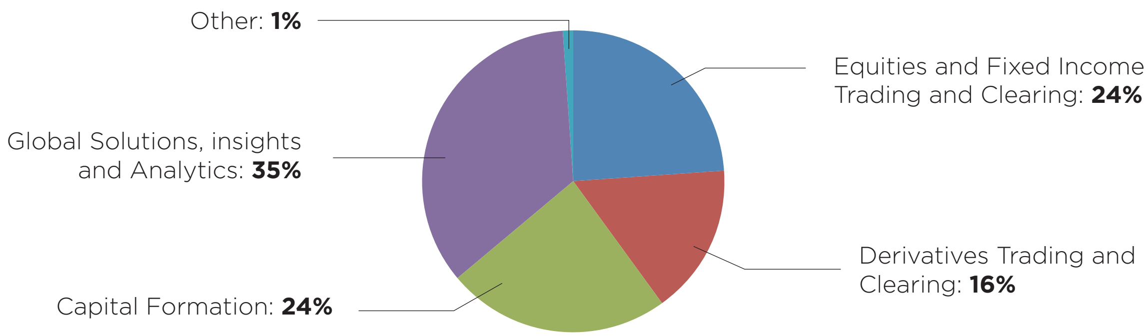
Sampson continued: "Not only do we focus on the cannabis producers, however, as there are also many other related companies that have come to list on TMX. Indeed, some of our earliest cannabis entrepreneurs are now constituents of our senior market with terrific valuations and lots of international investors. Overall, we have 50 cannabis issuers with a $60 billion market cap."

TMX Group enjoyed something of a coup in late May when Colorado-based Charlotte Web Holdings, which makes hemp-derived CBD products, became the first US-based cannabis firm to list on the Canadian exchange.

Loui Anastasopoulos, TMX's president of capital formation for equity

TMX 2018 Revenue: $817.1 million

Source: TMX 2018 Annual Report



> Interest rates and the cost of private capital are low at the moment, so we are seeing companies staying private for longer and more of their growth is happening in that private phase

markets, told Bloomberg in June he thought Charlotte's Web was only the latest example of CBD or hemp firms moving to the largest Canadian exchange.

Most of these US firms previously traded on the smaller Canadian Securities Exchange because TMX does not allow listings of companies that are illegal where they operate. But the legalisation of hemp-derived CBD products in the US following the approval of a farm bill in December means these US firms can now list on TMX and access its deeper pool of institutional investors.

Charlotte's Web chief financial officer Richard Mohr has also hinted at the prospect of dual-listing between TMX and NYSE or Nasdaq, the vast US stock markets neither of which yet have a hemp company listing.

Dual-listing on TMX and one of the huge New York markets is common among Canadian listed firms, said Sampson.

"There are some 180 issues that are currently interlisted on TMX and either NYSE or Nasdaq and among our most actively traded. These types of dual listings are interesting because they open-up Canadian listed firms to the US retail market and, similarly, enable US listings to gain access to the Canadian retail investor base."

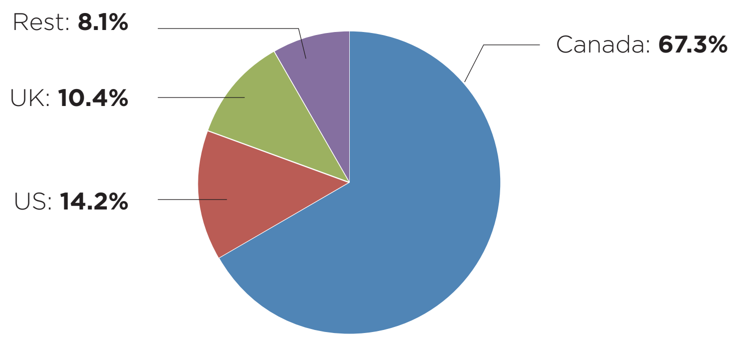
He added: "Looking at the trading data over the past decade, the market share of inter-listed trading tends to be split pretty evenly: approximately 48% on TSX and 52% of trading on the market. History has also shown inter-listing provides a net benefit to issuers and their stakeholders, with an increase in analyst coverage, enhanced liquidity and improved access to global investors."

Sampson is understandably bullish about the prospects of attracting more Canadian and international clean technology, bio-technology, renewable energy, life sciences and cannabis firms to TMX and getting more traders to use these stocks. He does however feel the public markets are increasingly having to compete with private equity funding, which is not helpful.

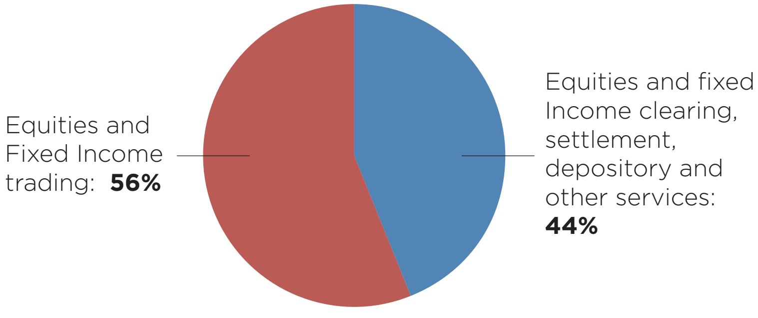
Sampson said: "Interest rates and the cost of private capital are low at the moment, so we are seeing companies staying private for longer and more of their growth is happening in that private phase. In doing so, however, these companies are doing institutional investors a dis-service because they are effectively being shut-out of these opportunities. If we look at the bigger picture issue, the public market is not only there to raise capital, rather it is also there to engage investors. The public markets are important because they allow investors to participate in that wealth creation. The downside, of course, is that these firms are beholden to their private investors and there are limitations to that also."

TMX is not alone in lamenting the expansion of the private equity market but the Toronto-based group is on to a good thing with its innovation segment. The exchange must capitalise on this advantage and continue working to make its markets more attractive to international firms seeking capital or investment opportunities. ■

Geographic Sources of Revenue:
Source: TMX 2018 Annual Report



Equities and Fixed Income Trading and Clearing Revenue: $194.6 million
Source: TMX 2018 Annual Report



Kuwait expects inflows after index promotions

Kuwait's asset management industry is among the biggest in the Middle East and North Africa and as the country's economy recovers and oil prices steady, the inclusion of the world's seventh-largest crude exporter into emerging market indexes will spur a large influx of funds into local stocks. By **Matt Smith**

Yet challenges remain in the asset management sector, which is fragmented and overly-reliant on equity investments, while the relatively small fund sizes lower profit margins and regulations can still be found wanting despite widely acknowledged improvements in governance.

The industry had assets under management (AuM) of 18.15 billion dinars ($59.8 billion) as of April 2019, of which discretionary portfolio assets represented 14.1 billion dinars, according to Kuwait's Marmore Intelligence. Mutual funds accounted for 1.1 billion dinars, while the remainder included foreign funds (1.6 billion dinars), direct investments (0.86 billion dinars), and custodial assets (0.5 billion dinars), Marmore estimates citing central bank data.

"Equity funds continue to attract more investors as compared to other assets as they provide higher returns albeit with higher risks," said M.R. Raghu, Marmore MENA Intelligence Managing Director. "Investors are also focusing on fixed income as it offers higher yield with lower risk compared to other emerging markets."

Kuwait's economy will grow 2.5% in 2019, according to the International Monetary Fund, bolstered by more robust oil prices - Brent crude was up 21% year-to-date as of June 21.

The country received a major boost on June 25 when index compiler MSCI announced it would promote Kuwait to its emerging markets benchmark in 2020, joining Saudi Arabia, Qatar and the United Arab Emirates as recent additions to an index which is tracked by passive funds worth hundreds of billions of dollars.

Shahrur: "As a matter of principle, we tend to gravitate towards markets that offer the best mix of valuations, earnings growth, and catalysts

Kuwait became part of the FTSE Russell EM index in September 2018 and will also join S&P Dow Jones Indices' Global Benchmark Indices as an emerging market this September following various regulatory reforms to bring Kuwait's trading practices up to international standards.

Typically, a country's stocks join such benchmarks in a staggered fashion, while looser foreign ownership restrictions have led to increased index weightings for many Qatari stocks on the MSCI EM index, for example.

These various index changes prompted large inflows from passive, index-tracking funds, with active investors also seeking to benefit from these trading trends.

That caused Gulf markets to become partly disconnected from company performance as investors placed lesser importance on fundamentals-based stock-picking, said Husayn Shahrur, Managing Director of MENA Asset Management at Kuwait's NBK Capital, which had $6.3 billion of regional and international assets under management as of December 31 2018. Such phenomena led his firm to take a more defensive stance.

"This is only transitory in our opinion and fundamentals will eventually regain the upper hand. As a matter of principle, we tend to gravitate towards markets that offer the best mix of valuations, earnings growth, and catalysts," said Shahrur.

Accordingly, his firm sees the most value in Kuwait, Egypt and the United Arab Emirates.

"We pursue investment strategies that start by setting country and sector allocation using a top-down approach and then populate the portfolio with stocks selected based on their absolute and relative fundamental characteristics," said Shahrur. "We depend heavily on our in-house research team to examine companies and their stocks and essentially try to uncover securities that are mispriced versus their intrinsic value."

NBK Capital, part of National Bank of Kuwait, the country's largest bank, offers seven mutual funds – a Kuwaiti equity fund that mostly invests in domestic stocks, a Gulf equity fund, a regional bond and sukuk fund, plus four money market funds. The latter quartet are denominated in either dollars or Kuwaiti dinars and invest conventionally or according to sharia principles.

For NBK Capital's clients, sentiment is influenced by several factors, said Shahrur. "Global markets and their outlook is one such factor, but regional and local drivers are also just as important," he said.

"On the regional level, two main issues tend to dominate. The price of oil and its outlook is key for investors (while) geopolitics is another important issue on the minds of clients and sentiment is easily swayed by any developments on that front."

Among NBK Capital's rivals is National Investments Co, which manages investment portfolios for institutions and high net worth individuals, mostly investing in listed MENA equities, as well five mutual funds that combined have combined assets under management of around 164 million dinars, according to Global Investor calculations. Within the Gulf, NIC invests in equities in Saudi, Qatar, UAE and Kuwait.

"We offer different investment strategies depending on the risk appetite – we've some aggressive models, moderate models, plus dividend-focused models," said Amro Nazir Sarhan, Assistant Vice President - Investment Portfolios Department at National Investments Co (NIC).

"We don't create customised mandates for particular individuals, but when we get a new client, we set out to understand their profile, objectives and constraints. Then, we'll recommend one of our existing mandates that most suits their needs."

Among NIC's five funds, Wataniya Fund, which is also its largest, is the best performing this year. Gaining 13.7% to May 31, the fund invests mostly in local equities and is heavily weighted towards the banking sector (51%), plus industrials (14.1%), telecommunications (10.5%), basic materials (10.2%) and financial services (6.5%).

The preference for banking shares is unsurprising because banks comprise the bulk of Kuwait's market capitalisation.

"The banking sector is always at the top of our investment list," said Sarhan.

Unlike the other Gulf currencies, Kuwait's dinar is not pegged to the dollar but to a basket of currencies in which the dollar is a large component. That means that it does not need to follow U.S. interest rate moves, unlike its neighbours.

"Banks achieved an outstanding performance in 2018 and that should be repeated this year and next year too," said Sarhan. "Infrastructure projects are progressing at a much faster pace than before, which will bolster banks' performance."

He highlighted retail as an underperforming sector, while companies that rely on government contracts are also vulnerable should there be changes in state policy.

"The market is becoming more sophisticated with new investment products becoming available – they've talked about ETFs, allowing margin trading, short-selling. There are many initiatives to enhance liquidity and increase foreign ownership," said Sarhan.

Another important regulatory move was to ease restrictions on foreigners owning shares in Kuwaiti banks.

"Liquidity has improved," said Sarhan. "The prospective index upgrades are boosting Kuwait's reputation and the profile of our market. Attracting passive funds adds liquidity and increases the breadth of the market."

In 2018, state-run Boursa Kuwait revamped its stock market, dividing it into Premier Market, The Main Market, and the Auction Market. The Premier Market is solely for blue-chip, liquid stocks that achieve specific levels of corporate governance.

"The premium market is attracting most of the liquidity, which is becoming an incentive for the companies in the main market to increase their transparency in order to be admitted into the premium market," said Sarhan. "Few foreign investors will search the main market for companies to invest in."

For him, educating investors is the biggest challenging facing Kuwait's asset management sector, with individual investors and day traders having historically dominated activity.

"Regulatory restrictions to reduce speculation and encourage strategic and long-term investment have hurt trading volumes," said Sarhan.

"A lot of individual traders quit the market because they didn't want to adapt to the new regulations. So, we need to teach the public that these standards are important for the market to be included in these indices and to attract foreign investors. If you don't educate them, we could lose half the trading on the bourse. If there's no liquidity, there's no market."

Marmore's Raghu noted the relatively small size of Kuwaiti mutual funds was problematic, with around 60% of funds holding less than $100 million in assets.

"The cost of operating such small funds lowers the profit margins and threatens the viability of business continuity," he added.

"Regulatory measures are often established post de facto, leaving little room for oversight and preventive measures. Rules are constantly amended, increasing the cost of compliance and affecting business operations. A lack of unified regulations has often been criticised as it inhibits scalability of operations in the region." ■

Bahrain tracks growth in sukuk and real estate

The fourth annual **Global Investor Middle East Asset Management Forum** in Manama, Bahrain, heard how the kingdom's expanding economy has helped reduce the island's budget deficit and boosted domestic stocks, while across the Gulf opportunities abound as technological innovation and improving liquidity bolster the financial services sector. By **Matt Smith**

The much-anticipated conference, which this year welcomed a record 180 delegates, once again began with a keynote address by H.E. Abdul Rahman Al Baker, Executive Director of Financial Institutions at the Central Bank of Bahrain.

Staged on April 29, the audience received an update on Bahrain's economy, which is forecast to grow 1.8% in 2019. That would be its 32nd consecutive year of economic expansion, according to the IMF, while the kingdom has steadily reduced its budget deficit to 11.7% of GDP in 2018, from 14.2% in 2017, and ratings agencies give the country a stable outlook.

These macro indicators have helped boost domestic stocks, with Bahrain's bourse hitting a four-year high in April to be up nearly 20% since the end of 2016.

Yet the regional financial sector continues to face challenges, with the lack of an established pensions industry a significant factor in the subdued trading volumes that stubbornly persist on regional markets.

Nevertheless, the industry's executives are innovating to create new products to better cater for clients' needs and broadly the region offers investors access to countries and assets supported by strong credit ratings and yet with emerging market levels of growth.

"The oil crash has been a once in a life time opportunity for the region to "reinvent itself"," said Charles-Henry Monchau, Managing Director, CIO & Head of Investments at Dubai's Al Mal Capital.

"We are seeing major economic, societal and capital markets reforms being implemented and this should help MENA to move post-oil era into a more diversified economy with greater representation and activity in the capital markets. MENA is full of attractive companies and ALPHA opportunities - 80% of the volume is retail money, the market is under-covered by sell-side research, for example."

Monchau also cited cyclical reasons that could spur asset allocators to invest in MENA equities such as the region's dollar pegs, limited exposure to a US-China trade war, relatively low valuations and strong fundamentals that include high foreign reserves, low debt and fiscal stability.

M.R. Raghu, Managing Director of Kuwait's Marmore MENA Intelligence

The conference's panels included a detailed discussion on regional sukuk.

"Expectations for 2019 are a flurry of issuances from the region as the interest rate environment becomes stable with the potential of rate cuts," said Ali Marshad, Head of Fixed Income Asset Management at Bahrain's SICO. "We have seen a flurry of demand since the start of the year from investors and that will provide a good entry point for issuers at attractive levels to lock-in much lower rates than what they would have been able to achieve in 2018 for example."

M.R. Raghu, Managing Director of Kuwait's Marmore MENA Intelligence, said sukuk issuance is correlated to oil prices, with lower energy receipts spurring the Middle East's oil-exporting countries to borrow more to meet budget shortfalls.

Meanwhile, the Gulf's wider local and regional investor base for sukuk has persuaded an increasing number of regional corporates to issue sharia-compliant debt, rather than bonds.

"GCC Governments are also convincing state-owned enterprises to diversify funding sources and access capital markets," said Raghu. "The governments want to wean off some of these enterprises from government funding."

Mohamed Damak, Senior Director and Global Head of Islamic Finance at S&P Global Ratings, said there were several factors in determining whether regional corporates opt for sukuk versus conventional bonds. These include the cost of funding, the amount, the tenor, the complexity related to issuing sukuk versus a conventional bond and the preference of the company itself.

"Some corporates issue sukuk opportunistically, when for example they see that they can raise a higher amount or for a longer maturity or at a lower cost," said Damak.

"Other corporates issue sukuk and not conventional bonds because they want to finance themselves in a sharia-compliant manner. Finally, some corporates are obliged to use only sharia-compliant instruments."

Sukuk volumes rose significantly in early 2019, Damak told the conference, noting that this was largely led by Indonesia's central bank starting to issue sharia-compliant debt, Turkey's efforts to tap all available financing sources, and the return of Qatari and Saudi Arabian issuers. Yet overall, the sukuk market will be near-flat year-on-year.

"We expect total sukuk issuance of $115 billion in 2019, including $32 billion of foreign currency issuances, which represents little-to-no growth on the $114.8 billion seen in 2018, with selective investors, worsening geopolitical stability in the Middle East, and challenges inherent to sukuk likely to hold back the market," Damak added.

Real estate remains among the most popular asset classes for wealthy and retail investors, despite steady growth in many Gulf markets such as Saudi Arabia, Dubai and Abu Dhabi, as panellists on a property-focused panel explained.

Saudi's large population and huge state investment will enable the kingdom's real estate market to become the region's largest in the long term, said Andrew Thomson, a partner and real estate specialist at Eversheds Sutherland law firm in Dubai.

"With a good wind, you'd imagine that the majority of significant real estate investments and transactions will soon be occurring in Saudi," said Thomson.

This could problematic for Saudi's

Mohamed Damak, Senior Director and Global Head of Islamic Finance at S&P Global Ratings

Gulf neighbours, which have long benefitted from providing Saudi visitors with hospitality and leisure options unavailable in the kingdom.

"Real estate development in Saudi is a completely different prospect to that in Dubai – it's more like developed markets in that you're building for owner-occupiers who'll likely live in the property for 10-15 years," said Thomson. "There will be far less focus on high-end, luxury property and far greater focus on affordable and mid-level housing, which will be sustainable over a longer period of time. It's a completely different market to Bahrain, Abu Dhabi or Dubai."

Amin Alarrayed, Chief Executive of Bahrain Real Estate Investment Company (Edamah), noted that sentiment for Bahrain property depended upon the specific sub-sector.

"For example, industrial real estate, such as warehousing and logistics facilities are very buoyant with strong demand. The same can be said for middle income housing which is very much dependent on domestic demand drivers," he said.

"The high-end residential market, particularly luxury apartments being sold off-plan are facing difficulty due to the fact that the demand drivers are external – investors, rather than end users – and as a result of a negative investor sentiment at the current time."

Mutual fund penetration in the Gulf is very low versus developed markets despite the region's abundant wealth. This in part due to the high expat population, which appears reluctant to invest via local companies, but that could be about to change as regional robo-advisors start to gain a foothold.

Robo-advisors enable retail, high net worth, and institutional investors to invest in the likes of ETFs, charging drastically lower fees than conventional asset managers.

"From a regulator's perspective, robo-advisors pose the same risks as conventional financial services firms - business risk, governance risk, financial resources risk and financial crime risk," said Matt Gamble, Director – Intermediaries at ADGM Financial Services Regulatory Authority.

"Having said that, the business model of robo-advisors has caused regulators to focus on governance risk more such as Algorithm Governance – what's under the hood or how to train your algorithm?"

Other governance-related questions that regulators are focusing on in regard to robo-advisors include the qualifications and competency of staff, developing and testing the model, and managing and maintaining the algorithm, said Gamble.

"Investment advisors were in the past only available to institutions and HNWIs. There was a need to have amount of wealth to gain entry. Robo-Advisors could open up this world to people with (smaller) amounts to invest," added Gamble.

Yacoub (Jake) Nuseibeh, Co-founder of UAE robo-advisory firm WealthFace, explained the business rationale behind his company, as well as highlighting the extensive regulatory requirements he has had to fulfil.

"The biggest hurdles have been in the areas of cost needed to set-up the business plus the approval conditions that make our business model very difficult to get the necessary registration," added Nuseibeh.

"Our fees are transparent, and a lot cheaper given the degree of automation and efficiency when we built the business model." ■

Brazil's B3 presses ahead with new functionalities

By **Louise Fordham**

After a period of system consolidation following the 2017 merger of Cetip and BM&FBovespa, the Brazilian market infrastructure provider – now known as B3 (Brasil, Bolsa, Balcão) – turned its attention to the delivery of new products and services in 2018.

"We are developing new services that better explore our potential around market data and analytics. We have a lot of data and we consider ourselves able to bring more value to everyone in the market in this area," said Claudio Jacob, managing director, international business development – client relations at B3.

The exchange is also developing new functionalities to support securities lending activities, which are due to launch this year.

This comprises the introduction of securities lending services for government bonds, the automation of broker-dealer accounts, and the creation of an electronic securities lending system. Direct access to the buy side, counterparty selection, and automatic renewal of lending assets are among the capabilities offered by the new system.

While continuing to work on the rollout of new offerings under its comprehensive 2019-2020 Roadmap, B3 has also been celebrating new milestones within the Brazilian stock market. In March 2019, the Ibovespa index, which accounts for 85% of the country's stock market, hit a new record by surpassing 100,000 points. "Some 3-4 years ago the Ibovespa was running at 50,000 points so it has almost doubled. That's very impressive, particularly if you consider the fact that inflation in Brazil is higher than in many other countries," said Jacob. "It also helps to support new IPOs and follow-on offerings."

As of March 29 2019, there were 336 companies listed on the exchange, with a total market capitalisation of more than BRL3,829 billion ($944 billion). The market has also seen growth in average daily traded values for equities, such as a 48.5% year-on-year increase in cash equities to more than BRL16 billion in 1Q19.

Claudio Jacob, managing director, international business development – client relations at B3.

Brazil: Economy and politics

Over the last 12 months Brazil has experienced a rather turbulent election, which resulted in a win for Jair Bolsonaro in October 2018. Bolsonaro was sworn into office in January, bringing with him the newly appointed economy minister Paulo Guedes, a former banker. The Bolsonaro administration has promised fiscal reforms and changes to the pension system in a bid to reduce the fiscal deficit and strengthen the Brazilian economy, which emerged from a severe recession in 2017.

In a note published in November 2018, shortly after the election results were announced, Cassiana Fernandez, J.P. Morgan's chief economist for Brazil, wrote: "While Guedes' proposed agenda was welcomed by market participants, we remain cautious on the government's ability and willingness to move forward with the reforms. We believe that at this point there is a 50% chance of approval of a meaningful reform agenda that will be enough to timely address the country's medium-term fiscal challenges, including the social security reform, which requires a tough-to-get 60% of support in two votes in each house."

Brazil's GDP grew by 1.1% in 2018 and April 2019 estimates from the IMF project growth of 2.1% in 2019. However, the country's economy minister has since revised its growth forecast to below 2% for the year, while minutes from a May 2019 meeting of the Central Bank's Monetary Policy Committee note that 'available indicators suggest a relevant probability that the seasonally adjusted Gross Domestic Product declined slightly in 2019Q1, when compared to the previous quarter'.

At the time of writing, the Central Bank's benchmark interest rate (Selic) remains at a record low of 6.5%, a rate that has been held since March 2018. "The low interest rate is bringing about a very interesting change in the behaviour of Brazilian savers, but also institutional investors who are looking at new alternatives in terms of financial instruments in order to maintain the performance of their portfolios," said B3's Jacob, who indicates a move towards "more sophisticated" investment vehicles.

Brazil's investment fund industry – which is estimated to have $1 trillion of assets under management – closed 1Q19 with a net inflow of R$47.8 billion ($11.9 billion), up 3.3% on balances at the end of 2018, according to the Brazilian Association of Financial and Capital Market Entities (Anbima).

"The perception that we have is that Brazilian investors are more optimistic about Brazil, so they are buying more equities and other 'riskier' products. Despite the noise around reforms, we feel there is a belief that things are going in the right direction and that foreign investors are due to come to the market," concludes Jacob. ■

Colombian exchange upgrades trading, clearing and settlement systems

By **Louise Fordham**

The Bogota-based Colombian Securities Exchange, Bolsa de Valores de Colombia (bvc), has been investing heavily in technology to promote market development and support the adoption of digital tools for investment.

"We are upgrading all of our core trading systems, as well as the clearing and settlement system, to be able to expand our product offering, to enhance liquidity, and to facilitate automatic and high frequency trading," explains Juan Pablo Córdoba, president at bvc.

"We are upgrading our technology to align with the needs of our clients, the intermediaries in the marketplace, and also to enable digital banking throughout the value chain."

The exchange is also adapting its processes to bring it into sync with international markets. In September 2019, bvc will begin clearing equities through its central counterparty (CCP) and will also transition to a T+2 settlement cycle. "This is a very positive step forward for the Colombian marketplace – enhanced security, adopting international standards, and new standards for the clearing cycle – all of this will help to enhance liquidity in the marketplace," said Córdoba.

Developing Colombia's capital markets

One of the key challenges facing the bvc and the country's capital markets is encouraging smaller companies to list. Córdoba notes that while there is continued appetite among institutional investors, Colombia's capital markets typically tend to be the reserve of much larger corporations.

Both the government and the exchange have been taking steps to address this challenge. "The government has been very proactive in reducing the costs of listing, simplifying the procedure, and automating prospectuses, which all facilitates the process of coming to market," said Córdoba. "We are also working directly with investment banks, brokers, and companies to provide more information, explain that coming to market is not as difficult as corporations may think, and raise awareness of the benefits."

Córdoba: "We are upgrading our technology to align with the needs of our clients, the intermediaries in the marketplace, and also to enable digital banking throughout the value chain."

In October 2018, the government launched the Capital Markets Mission. This initiative brings together market experts to analyse barriers to market growth and offer recommendations as to how these hurdles can be overcome.

At the Mission's launch, Luis Alberto Rodríguez Ospino, deputy minister of finance and public credit, stated: "There has been a consensus for quite some time that the capital market in Colombia is not as deep as it should be for the size of our economy. There are still challenges to accelerate the depth, liquidity and efficiency of the market, which is why the national government is committed to generating an environment conducive to its development."

Córdoba said: "The government is very keen to help develop the capital markets in Colombia, and this panel of experts will consider how we can take the markets to the next level. We are expecting their diagnostic by the middle of this year and proposals around August. So, in the second half of the year there will be a very rich debate about the type of policies that need to be implemented in order to enhance the markets."

Colombia: Economy and politics

2018 was a presidential election year in Colombia, bringing with it the usual political uncertainty that accompanies election cycles. This came to a head in August 2018 when newly-elected Iván Duque, considered to be pro-business and market-friendly, took office.

In December 2018, the Colombian Congress passed tax reform legislation that will see the corporate income tax rate reduced from 33% in 2018 to 32% for 2020, to 31% for 2021, and to 30% for 2022 and onwards.

"This is creating a very positive mood in terms of economic activity and investment, and that is of course reflected in the markets which started off on a positive trend this year," said Córdoba.

The Organisation for Economic Co-operation and Development (OECD) anticipates real GDP growth of 3.4% in 2019 and 3.6% in 2020. This compares to growth of 2.7% last year.

According to the OECD's Economic Outlook for May 2019, growth is expected to remain strong on the back of higher domestic demand. The report states: "Investment will be a key driver of growth, aided by a lower tax burden and infrastructure projects. Low and stable inflation and improving financing conditions will support consumption. Upside risks include higher oil prices, which could boost investment further.

The report concluded: "The tourism sector holds potential for upside surprises, thanks to the end of the armed conflict. Downside risks include regional instability, particularly in Venezuela, additional delays in infrastructure projects, and a spill over of financial volatility in emerging-market economies." ■

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CHIEF EXECUTIVE OFFICER OF THE YEAR

YVES PERRIER | Chief Executive of Amundi

ASSET MANAGER OF THE YEAR AND SMART-BETA MANAGER OF THE YEAR

AMUNDI

Yves Perrier, the chief executive of Amundi since January 2010, has in that time more than doubled assets under management at the Paris-based firm to a little under $1.5 trillion at the end of 2018.

Assets under management growth slowed somewhat in 2018 in what was a tough year for European managers but Amundi started 2019 strongly, reporting first quarter accounting net income up 6.4% on last year.

Speaking to Global Investor, Perrier said he is pleased with his group's financial performance: "Firstly, during the last 12 months, we have demonstrated the resilience of Amundi's business model: despite an unfavourable market environment, the Group's results were once again significantly on the rise and in line with the trajectory announced in February 2018."

Another recent highlight for Perrier was the rapid completion of the integration of Pioneer, the US manager acquired by Amundi in July 2017.

Perrier said: "The last 12 months also marks the successful integration of Pioneer, whose acquisition has strengthened the Group in all its dimensions: distribution capacity, expertise and talent. The integration was completed smoothly and in a short period of time (18 months), the merger will have generated greater synergies than anticipated. These synergies have already been partly reinvested in our development, both in our businesses and in our international subsidiaries."

Speaking on a personal note, Perrier added: "For any CEO, one of the sources of satisfaction is also to see his employees develop and grow. This is the case at Amundi, which has continuously strengthened its teams through internal promotion or external recruitment."

Perrier said a key feature of the Amundi project is "a strong development dynamic, particularly outside of France" which "requires a multidisciplinary approach to understand economic trends and the changing financial needs of clients in order to provide them with the right investment solutions".

He said his ambition is to make Amundi a "top five global asset manager" recognised for: "the quality of its expertise and service to clients; solid earnings growth and profitability; and its commitment as a responsible firm".

With that in mind, Perrier's key priorities are to: "continue to expand in all business lines and countries; forge new distribution partnerships particularly in Europe and Asia where we hope to reach $300 billion in the next 3-5 years; promote our range of products and services like discretionary management for retail clients; expand along the value chain especially to tier two and tier three asset managers, and insurance companies; and strengthen our responsible investor positioning".

The Amundi chief added: "Asset management is at the crossroads between the return needs of investors and the financing needs of companies. It can therefore play an important role in economic growth across Europe."

Amundi, as the largest European asset manager, is a leader in the field of sustainability investing also known as environmental, social and governance (ESG) investments.

And Perrier has committed Amundi to an ambitious ESG plan in the next three years: "to incorporate ESG in all our investment processes; to double the funds invested in specific initiatives linked to the environment with large social impact to reach €20 billion; and to amplify our commitment towards solidarity-based companies, by taking the Amundi Solidarité Fund from €200 million to €500 million".

Finally, Perrier said the company will continue to "fully play its part with the companies in which we invest" mindful of two problems: climate change and widening inequalities.

Amundi expects companies in which it invests to publish data on greenhouse gas emissions and pay differentials so their effect on climate change and inequality can be monitored. ■

LIFETIME ACHIEVEMENT AWARD

PHILIPPE SEYLL | Chief Executive Officer of Clearstream Banking S.A.

Philippe Seyll has come a long way since graduating with an engineering degree from the Université Libre de Bruxelles in the mid-1980s. He is currently the Chief Executive Officer of Clearstream Banking S.A., having joined the European post-trade services firm as head of investment fund services in 2005. Before Clearstream, Seyll was managing director and head of asset manager services at The Bank of New York in London and worked for a period at messaging firm Swift.

Reflecting on a busy year running one of Europe's top settlement houses, Seyll listed among his key achievements: "Having been part in developing such a great business franchise at Clearstream and having built the largest fund execution and custody platform with my colleagues. I really enjoy working with such enthusiastic team mates at Clearstream, who not only are professional but very interesting people to work with, while having kept a reasonable work-life balance."

The purpose of a firm like Clearstream is changing over time in response to the changing demands of its customers. Whereas the Luxembourg-based firm was basically a central securities depository, handling the settlement of shares traded on the German stock market, and an investment fund processing platform supplier when Seyll joined some 15 years ago, the role of the company is changing, he said.

Seyll told Global Investor: "We witness the change in our clients' focus: cost containment, share capital right-sizing and risk reduction are leading financial institutions worldwide to outsource their non-core business. That is where we position our business franchise development."

Specifically, Seyll said this means the company looks forward to implementation of the European capital markets union and most particularly its ambition of "eliminating the Lamfalussy and EPFT barriers which will allow for further cross-border integration."

Yet Seyll said the firm and its parent Deutsche Börse are working hard on multiple fronts: "We are also progressing well on the usage of smart contract technology. Deutsche Börse is building a solution to the cross-border mobilisation of collateral together with fintech HQLAx. We are expecting the first collateralisation of an asset swap transaction by the proxy of a token exchange on blockchain late this summer."

Under this plan, there will be no actual movement of securities between custody accounts on the HQLAx target operating model unlike in traditional settlement. Instead, tokens will be transferred while the underlying securities will be kept off-blockchain and remain static. The partners believe this helps market participants to redistribute liquidity more efficiently by providing collateral mobility across systems and locations.

Seyll continued: "We are growing our fund execution platform Vestima by having added new services such as the Fund Desk distribution support with the acquisition of Swisscanto Funds Centre. We also expand geographically with the acquisition of Ausmaq, the fund trading platform of National Australia Bank in Australia."

Clearstream said in May 2019 it had reached an agreement with NAB to acquire its Sydney-based specialist managed funds services business Ausmaq Limited and the transaction is expected to be completed in the second half of 2019, subject to customary closing conditions including regulatory approval.

Looking ahead, Seyll said he sees Clearstream playing a bigger role in working with its largest clients: "In the long term, Clearstream will become an ever stronger insourcer of financial services delivery providing cost-efficient solutions to financial institutions. We want to enable financial institutions to concentrate on their core business knowing that Clearstream will facilitate the cross-border transaction of financial assets, may it be over-the-counter or on-exchange, cleared or not cleared."

Seyll concluded: "We aim at reducing the risk on those transactions, helping financial institutions to reduce their operating cost and need for capital in our ever-changing regulatory landscape." ■

EQUITIES MANAGER OF THE YEAR AND EMERGING MARKETS MANAGER OF THE YEAR

ARTISAN PARTNERS

Artisan Partners' track-record in equities is impressive. At the end of March 2019, all of the firm's 14 long only equity strategies had outperformed their benchmarks since inception, gross of fees. Over three years, the Artisan Global Equity Composite was up 5.2% on the MSCI AC World Index and the Artisan US Small Cap Growth Composite was 8.24% over the Russell 2000 Growth Index.

Virtually all of Artisan's $107.8bn assets globally are in long-only equity mandates and the firm, founded in 1994, has in the past decade seen particular growth outside of its domestic US market. Its non-US book is now worth over $20bn compared to just over $200m a decade ago.

And Artisan continues to innovate. In December 2018, the Artisan Thematic Team launched the Thematic Fund, a UCITS vehicle for the Artisan Thematic Strategy.

Eric Colson, CEO of Artisan Partners, said of his firm: "Artisan's edge is the combination of our talent and our environment. We believe Artisan Partners is the ideal home for passionate and independent thinkers who want to build investment franchises to own the outcomes, with as few distractions as possible."

Artisan has an interesting model: each autonomous investment team pursues alpha based on its individual investment process. The firm's distinct, centralised business management team, dedicated relationship managers and operational teams are responsible for the functions that can distract investment professionals at other organisations.

The firm is proud of its low staff turnover, adding that, other than via retirement, no founding investment team members have left the firm since inception.

Artisan Partners is also investing in technology and in 2018 hired Christopher Kelly, former Head of Digital Marketing at BlueBay Asset Management, to focus on the firm's digital efforts and ensure a seamless and value add experience for clients.

Artisan Partners has two dedicated emerging market equity strategies. The Artisan Sustainable Emerging Markets Strategy, launched in 2006, is managed by the Artisan Partners Sustainable Emerging Markets Team and the Artisan Developing World Strategy, launched in 2015, is managed by the Artisan Partners Developing World Team.

Both strategies have out-performed since inception. Over three years, the Sustainable EM product outperformed by 3.26% and the Developing World Composite by 5% over the MSCI EM Markets Index.

They were both highly rated by eVestment at the end of 2018 gross-of-fees performance. Over three years, the Artisan Sustainable Emerging Markets was ranked 13th out of 192 in eVestment Global Emerging Mkts All Cap Equity Universe and the Artisan Developing World Market was 36th out of 384 in eVestment All Emerging Markets Equity Universe.

Artisan Partners' emerging markets book is growing solidly also, having reached at the end of March this year $2.4bn, which was an increase of 188% on three years earlier. And this growth looks set to continue after the firm launched in early 2019 UCITS Fund vehicles for both the Artisan Sustainable Emerging Markets and the Artisan Developing World Strategy.

Artisan said its success is linked to the fact that it focuses solely on active, high value-added strategies where investment professionals can differentiate themselves from their peers and benchmarks through fundamental research and a disciplined investment process.

The six-strong Artisan Sustainable Emerging Markets Team has an average 22 years' experience investing in emerging markets. Artisan said nearly all team members were born in emerging markets.

The three-strong Artisan Developing World Team has an average 11 years' experience investing in emerging markets

Both Maria Negrete-Gruson, lead portfolio manager for the Sustainable Emerging Markets Strategy, and Lewis Kauffman, lead portfolio manager for the Developing World Strategy, are Citywire "A" rated portfolio managers. ■

> "Artisan's edge is the combination of our talent and our environment. We believe Artisan Partners is the ideal home for passionate and independent thinkers who want to build investment franchises to own the outcomes, with as few distractions as possible."
>
> Eric Colson, CEO of Artisan Partners

FIXED INCOME, LDI AND MULTI-ASSET MANAGER OF THE YEAR

INSIGHT INVESTMENT

Insight Investment is globally recognised as a leader in fixed income investment management and consistently ranks highly in independent surveys. The reputation is based on expertise and innovation, a commitment backed up in 2018 when Insight further developed its cashflow-driven investment (CDI) mandates in response to client demand.

As maturing pension schemes become net cashflow negative, meaning investment income and sponsor contributions do not cover short-term cashflow obligations, many firms are adopting CDI.

This typically involves designing fixed income portfolios to generate cashflows to help fulfil short-term obligations without undermining the pursuit of longer-term objectives. Insight innovations included enhanced analysis to help schemes design CDI portfolios, the integration of CDI portfolios with schemes' funding strategies and tailored CDI reporting metrics.

With this approach, Insight met 100% of clients' cashflow requirements – the central goal of CDI mandates. Demonstrating skill at managing credit quality in CDI portfolios, Insight also maintained higher credit ratings across its buy-and-maintain corporate bond strategy than the comparable investment universe.

The last 12 months was a difficult one for fixed income funds but 91% (weighted by value) of Insight fixed income strategies had outperformed their benchmarks over three and five years to March 31 2019.

Innovation highlights for the year included: the development of buy-and-maintain fixed income reporting metrics; the launch of the industry's first maturing credit indices; and incorporating ESG metrics for buy-and-maintain portfolios.

Insight is also an industry leader in the management of asset and liability risk, with LDI portfolios accounting for about 75% of its £648bn ($844bn) of assets under management.

The firm takes a dynamic approach to LDI mandates by exploiting opportunities to reduce costs and optimise efficiency. Mandates are managed according to tailored guidelines against client-specific liability benchmarks, and 98% of Insight full discretionary mandates (weighted by value) outperformed their benchmarks over the 12 months to March 31 2019. This ensured Insight's long-term track record remained intact, with 100% and 100% outperforming over three and five years respectively.

Highlights for the past year include: a measure of liability exposure and a platform through which pension schemes can efficiently hedge longevity risk; further agreements with corporates and clearing houses to provide repo liquidity without bank intermediation; the Pensions Management Institute in the UK accredited Insight's client training in 2018; and the firm worked to assess and rebalance clients' collateral pools, helping to meet liquidity requirements while covering LDI hedging costs and investing for growth.

Insight Investment's flagship multi-asset strategy – the Insight broad opportunities strategy – has been running since 2004 and aims to deliver a return of cash plus 4.5% per annum (gross of fees) over rolling five-year periods with materially lower volatility than equities.

The firm strives to offer transparency and clarity to help investors understand its multi-asset strategy and how they are implemented over time. To this end, Insight offers detailed, regular reports to investors that offer clear information on how assets are allocated and strategies are deployed.

Insight seeks to combine market-based returns with strategies less reliant on rising markets: while some multi-asset strategies rely on market-based returns across a wide range of asset classes and others rely on idiosyncratic strategies less tied to the overall performance of asset classes, Insight's approach encompasses both.

The firm is also committed to dynamic asset allocation to assertively move exposures to areas where it expects attractive returns and away from those where it does not.

These features, implemented by a dedicated investment team of 10 portfolio managers using a multi-dimensional risk framework, have helped the Insight broad opportunities strategy deliver its targeted outcomes. ■

The last 12 months was a difficult one for fixed income funds but 91% (weighted by value) of Insight fixed income strategies had outperformed their benchmarks over three and five years to March 31 2019

ETF/PASSIVE AND INFRASTRUCTURE MANAGER OF THE YEAR

DWS

DWS Xtrackers have made advances over the past 12 months, particularly in fixed income ETFs, where structural changes in underlying bond markets have made fixed income ETFs a key access and liquidity tool for fixed income exposure.

In 2018 Xtrackers expanded its fixed income range with the launch of a USD high yield corporate bond ETF, and followed this with the listing of a USD corporate bond 'yield plus' ETF (providing exposure to the highest-yielding investment grade bonds that broadly constitute the USD investment-grade corporate bond market). Access to these types of exposures is crucial for investors in an environment characterised by yield chasing and falling sterling.

DWS Xtrackers ETFs also launched in 2018 a range of dividend-focused ETFs.

The Xtrackers ETF range is unrivalled in its scope, encompassing dozens of emerging market ETFs (ETFs are an important access tool to emerging markets for pension funds, particularly for self-invested).These include a number of China ETFs, and a 'smart beta' quality-weighted emerging markets ETF.

In May DWS Xtrackers also launched three new dividend ETFs that include a quality filter as part of the securities selection process.

- Xtrackers Morningstar US Quality Dividend UCITS ETF
- Xtrackers Morningstar Global Quality Dividend UCITS ETF
- Xtrackers MSCI World High Dividend Yield UCITS ETF

These utilise quality screening to tilt towards securities with attractive fundamentals as well as sustainably high dividends. The two ETFs tracking Morningstar indices are especially innovative, utilising proprietary Morningstar analysis based on the firm's Economic Moat research methodology, which aims to build a picture of the fundamental health of a company inclusive of intangible factors such as brand impact.

More recently, DWS Xtrackers launched two highly innovative thematic ETFs that use a sophisticated and unique screening methodology designed to pick stocks most likely to cash-in on up-and-coming technological advances.

DWS has over 20 years' experience of infrastructure investment and has executed since 1994 over 100 transactions in transportation, utilities, telecommunications and other service sectors critical to the economy.

DWS's infrastructure business has designed and executed a distinctive investment strategy for its European funds that has delivered attractive returns and strong income yield to its investors. DWS's Pan-European Infrastructure Fund (PEIF) is one of the best performers of its vintage.

With current net IRR of 9.9%, PEIF is on track to achieve its performance targets, despite being over 60% invested just before the global financial crisis in 2008. PEIF has returned £1.5bn to investors out of £1.7bn capital commitments with approximately £2bn still to be realised.

DWS Group has a 20-year history of commitment to ESG; it was one of the first signatories to the UNPRI in 2008. The DWS infrastructure business shares this commitment to ESG considerations and, to benchmark the ESG performance of its funds and portfolio assets, participates in the GRESB annual assessment of infrastructure funds. For 2018, PEIF and PEIF II scored 1st and 2nd respectively in the annual GRESB Infrastructure Assessment, out of 75 funds completing the survey.

The DWS infrastructure platform provides access to a platform with a track-record of delivering attractive investment returns to clients for over ten years, comprising upfront yield and some capital appreciation. The German manager has developed a differentiated strategy that emphasises its platform's areas of strength: for example, the European mid-cap sector and bilateral transaction opportunities where price is not the sole factor.

The depth and diversity of the team – which has fluency in 13 European languages – allows DWS to originate transactions and develop long-term partnerships with portfolio companies, which the firm can leverage for investors' benefit. For example, DWS's close relationship with the Peel Group allows it to call upon their expertise both for potential acquisitions and for other assets within the portfolio. ■

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RISING STAR OF THE YEAR

AMY CLARKE | Tribe Impact Capital

Tribe Impact Capital is nothing if not ambitious.

The London-based impact wealth management firm is trying to re-establish an old-fashioned interpretation of wealth – that of "a general condition of well-being, whether personal, professional, environmental, social or financial" - and replace the more modern meaning of "individual monetary worth".

The company, founded in 2016, works by trying to align wealth stewardship and creation with the specific values of individual clients to "deliver positive impact and growth for everyone".

Amy Clarke is a co-founder and one of four partners at Tribe Impact Capital and her values are aligned to the company's principal theme: Environment and Ecology.

Having studied environmental degrees at University, Clarke is deeply committed to helping people understand and embrace the planetary boundaries within which we live, work and play.

Clarke believes that the fragility of our planet, the ongoing pressures it faces and our place on it can only be solved when we recognise and embrace our impact on it and work with nature, not against it. She is responsible for working with clients on values and for leading Tribe Impact Capital's work on impact identification and evaluation. She has over 24 years' experience in sustainable business, social investment, impact evaluation and social enterprise having spent time at EY, PwC, Microsoft, Bank of America and the Charities Aid Foundation.

Clarke sits on the boards of The Blue Cross (one of Britain's oldest animal welfare charities) and sat on the board of Big Issue Invest (the impact investing arm of The Big Issue Group). She also sits on the Development Council of the Future Fit Benchmark (the new benchmark for investors and companies driving towards a future fit world), and on the Development Council of FaithInvest, a new global initiative of the world's faiths mobilising their assets to deliver the UN SDGs. ■

ESG MANAGER OF THE YEAR

AVIVA INVESTORS

Aviva Investors won the hotly contested ESG manager of the year award for its continual engagement with companies in which the firm owns shares.

Aviva voted in the past 12 months on 54,335 resolutions at 4,173 shareholders meetings. Aviva voted against over a quarter of management resolutions and almost half of all pay proposals. In that time, it engaged with almost 2,000 different companies as part of its stewardship commitment.

Aviva also increased the size of its inhouse global responsibility investment team to 21 and more than doubled its investment in green and social bonds to £1.7 billion. The asset manager has also been engaged in the debate around the future of ESG. It has published many reports including papers on GDP, environmental sustainability and the future of energy. Aviva staff also spoke at various industry events including the G20 conference in Buenos Aires and the UN General Assembly in New York.

Aviva also worked with the UN Foundation, BSDC, and the Index Initiative to create the World Benchmarking Alliance which was launched on September 24 2018 in New York on the eve of the General Debate of the 73rd session of the United Nations General Assembly. The WBA's mission is to provide everyone with access to information that indicates how companies are contributing to the Sustainable Development Goals (SDGs). It will do so by developing free and publicly available corporate sustainability benchmarks that rank companies on their sustainability performance and contribution to achieving the SDGs.

WBA's launch followed a year of international consultations, expert meetings, and online surveys, with more than 10,000 stakeholders representing business, civil society, government and consumers. Through this collaboration, WBA defined its vision, institutional structure, and priorities in terms of focus industries and SDGs.

WBA will develop a range of corporate benchmarks by 2023 to comprehensively assess the progress of 2,000 companies across major areas of transformation required to achieve the SDGs. The first set of benchmarks will be published in 2020 and will address food and agriculture, climate and energy, digital inclusion and gender equality and empowerment. The benchmarks will be developed in close collaboration with WBA Allies. ■

WEALTH MANAGER OF THE YEAR

LOMBARD ODIER

Swiss banking group Lombard Odier had a strong 2018.

Lombard Odier's operating income for the 12 months was up 6% to CHF1.2 billion (£968 million) and its consolidated net profit excluding one-off items rose 13% to CHF 165m. Over the same period, the Geneva-based group saw positive inflows in Switzerland, Europe and the emerging markets. The group's performance was underlined by the fact it hired around 60 experienced bankers.

Lombard Odier aims to protect and grow clients' assets, guided by a simple philosophy: 'rethink everything'. This has delivered over 220 years of stability through 40 financial crises, the firm has said. More recently, Lombard Odier has also enhanced its bespoke, sophisticated discretionary investment service with a new, holistic 'goal-based' approach, drawing on liability-driven techniques used by institutional investors.

Seven managing partners own and manage the business, and look after client relationships. Lombard Odier believes this independence aligns its interests with those of its clients, and enables the group to take a long-term view.

Lombard Odier has also invested heavily in technology and offers an award-winning single, global banking platform that gives clients a secure and integrated financial management tool.

The company is also working hard on sustainability, arguing that it is more than an environmental issue, rather a "revolution which will drive higher investment returns in the mid-term".

Recent achievements include:

- Embedding sustainability into all investment processes across the group (90% of LOIM's mainstream AuM now integrate sustainability)
- Becoming in March 2019 the first global wealth and asset manager to be awarded B Corp certification, one of the world's most advanced corporate sustainability ratings

Lombard Odier can also claim to be among the world's best-capitalised banks, with a 29.9% CET1 ratio and AA- Fitch rating. With 27 offices, 11 booking centres and CHF 259 billion of client assets, Lombard Odier has the scale and global reach to deliver excellence, while remaining nimble enough to deliver a genuinely bespoke offering. ■

FIDUCIARY MANAGER OF THE YEAR

BMO GLOBAL ASSET MANAGEMENT

BMO Global Asset Management says that is commitment to fiduciary clients is simple: manage complexity, deliver clarity.

The company has adopted this position because it believes the job of a pension scheme trustee is now more difficult than ever before.

And BMO has shown that its approach to fiduciary management can make a real difference to performance by adopting a flexible approach for different clients whether for full fiduciary management to implementation-only mandates. BMO currently has over 150 fiduciary clients with an established record of tailoring solutions for clients of all sizes. BMO's key attributes are as follows:

- Asset Management heritage - BMO has been managing money for almost 150 years through all market cycles, standing the test of time.
- Access to best of breed third party managers - BMO is truly open architecture and has huge breath and experience, managing almost £40bn in third party managers globally from a research team of over 40.
- Expertise in understanding liabilities - For almost 15 years BMO has been operating a UK LDI business and traded the first UK LDI swap trade in 2003.
- ESG is now increasingly important and BMO has been in this area for over 30 years with one of the largest teams in Europe.
- Fiduciary management experience – approximately half of BMO global assets under management are in its 'solutions' business represented by about £30bn in multi-asset, about £30bn in LDI solutions and about £40bn in third party multi-managers.
- BMO is committed to integrating ESG factors into its investment processes. The BMO fiduciary business has worked with its Responsible Investment team to implement ESG considerations into mandates.
- LDI - following the successful re-shaping of its pooled fund offering, BMO launched several innovative new products that fitted the needs and demands of clients.

BMO said it has designed a comprehensive solution that has enabled clients to achieve their goals of enhancing policyholder value for money through added sources of investment returns, lower costs and improved capital and operational efficiency. ■

FUND OF FUNDS MANAGER OF THE YEAR

AURUM FUND MANAGEMENT

Aurum Fund Management Ltd. has been investing its own and its clients' capital across multiple market cycles for nearly 25 years.

They understand the difficulties that markets present and the negative impact of sharp drawdowns on long-term returns.

Aurum's solutions are designed to complement traditional portfolios by producing uncorrelated, low beta, stable return streams that are not dependent on market direction and do not have a specific style associated with them. Aurum believes a well-constructed portfolio of hedge funds should protect capital, providing a consistent and diversified return stream that investors should have access to.

Aurum promotes the highest standards in environmental, social and governance and is a signatory to the United National Principles for Responsible Investment.

In 2015, Aurum, in conjunction with Synchronicity Earth, founded Project Regeneration, an initiative to create strategic funding partnerships between corporates and environmental NGOs to regenerate natural habitats. From the outset, Aurum wanted this to be a scalable programme.

Representatives from Aurum have presented at industry conferences and written articles for industry press to encourage participation.

The hedge fund industry deals with complexity and risk - an industry strength is analysis of data and seeking to understand the impact of trends and system changes. By extending this approach to environmental impact, the industry is ideally placed to both understand the problems and be part of the solution. Aurum has a goal to mobilise the industry to have a net positive impact.

Aurum was founded in 1994 by the Sweidan and Gundle families, who remain 50:50 owners of the company and have remained closely involved in the business since inception. The importance of capital preservation to the founding families has anchored Aurum's investment philosophy.

Longevity, focus, independence and a consistent philosophy are at the heart of how Aurum manages its business, research process and long-term investment strategy. ■

INVESTMENT CONSULTANT OF THE YEAR

BFINANCE

bfinance is a privately-owned investment consultant that is not part of a broader firm, nor does it provide fiduciary management or asset management services.

This sets the firm apart from many of its rivals, in that bfinance is dedicated to implementation and providing an independent voice versus consultants whose support is packaged with asset allocation advisory. This delivers specialisation and addresses conflicts of interest.

Key attributes of the bfinance business are:

- Specialist expertise: Senior staff include ex-practitioners from asset management, including the hire of Sweta Chattopadhyay to head Private Equity
- No buy lists: In manager selection, bfinance does not have "buy-lists" rather it provides 'full universe' coverage and customised tenders. This delivers a 'full audit trail' for investors to validate decisions and creates a stronger negotiating position on terms and fees.
- Fees: An unconventional (but increasingly copied) fee model for manager selection. The winning manager, not the investor, pays consultancy fee – a transparent fixed cost communicated up front.

Client satisfaction was underlined by a "Voice of Customer" research conducted by Strategex which produced in 2018 a Net Promoter Score of 63, which was higher than that declared by any other investment consultant, and ahead of last year's bfinance (also industry-leading) score of 59.

Highlights of the past year include:

- The launch of Risk Solutions: Risk analytics services, formerly offered purely on an ad hoc basis to particular clients, have been restructured and rolled out under bfinance's Portfolio Solutions unit.
- Rapid growth: The volume of assets on which the firm advised was over 20% higher at the end of March 2019 than 12 months earlier.
- Establishing a Hong Kong/Asia base: Accompanying the growth of the firm's Asia clientele, bfinance has opened a base in Hong Kong, recruiting JingJing Bai to the team.

More recently, the firm has been focused on positioning portfolios for more volatile conditions and asset price revaluations, with equity overlays for pension funds, re-engineering equity portfolios, using illiquid alternatives and implementing diversifying strategies. ■

FUND ADMINISTRATOR OF THE YEAR AND PRIVATE EQUITY FUND ADMINISTRATOR OF THE YEAR

NORTHERN TRUST

Northern Trust has made great strides in enhancing its administration capabilities in line with its commitment to supporting clients' investment operations as their fund administrator and asset servicer.

Highlights for the year included:

- Establishing an EU banking presence in Luxembourg, thereby demonstrating strategic focus, Brexit preparation and ensuring continuity of service for clients and their own investors regardless of location.
- Winning and renewing fund administration business from leading and fast-growing asset managers globally; these range from £33.6bn manager Hermes Investment Management (UK), which extended its middle-office outsourcing mandate following an extensive review to fund houses including Apse Capital (Channel Islands), Maple-Brown Abbott (Australia) and Corry Capital (USA).

Northern Trust seeks to combine long-standing expertise with technology and innovation to meet the evolving needs of global investor clients. The US-based firm has maintained its investment in technology and has launched in the past year front office solutions and an end-to-end platform that integrates data, streamlines operations and enables smarter investment decisions across complex portfolios of public and private assets.

Central to Northern Trust's technology proposition is Northern Trust Matrix, a new technology architecture that digitises, automates and personalises numerous interactions between Northern Trust, its clients and their investors.

Starting with transfer agency services, Matrix has laid the groundwork for developing powerful tools to change how clients receive and manage data, assisting clients with data oversight, reporting and investor servicing.

The firm sees its role as helping clients think creatively about how they may grasp opportunities in fund administration to manage risk, control costs, increase operational efficiency. So over the past 12 months, Northern has stepped-up efforts to share its thinking on how the application of next generation technologies may assist clients with their challenges.

This has seen Northern Trust share thinking ranging from a commentary series on the transformative impact of digital technologies on asset management models, to the changing role of the asset servicer in facilitating these shifts, and whitepapers on the evolution of alternative investments and implications of emerging trends for fund operations, client servicing models, and investor transparency.

Northern Trust has enjoyed particular success in private equity fund administration, where it has again used technology innovation as a differentiator.

Examples included:

- Processing the industry's first live capital call using distributed ledger technology for Emerald Cleantech Fund III LP. This added significant new capability to Northern Trust's blockchain solution for private equity fund administration by offering an end-to-end automation of the capital call process. Investment advisor Emerald Technology Ventures used Northern Trust's private equity blockchain for the fund's capital call administration. All parties connected through a distributed ledger based in Guernsey, operated by Northern Trust in its capacity as fund administrator.
- Pioneering the capability to deploy legal clauses as smart contracts directly from a digital legal agreement onto its private equity blockchain. The ability to be able to digitally create, negotiate and sign private equity documents and then automatically action the terms within the document utilising smart contracts on a blockchain platform will add significant benefit to what has traditionally been a document heavy process. This new capability was deployed for Emerald Technology Ventures' Emerald Industrial Innovation Fund.
- Developing enhanced reporting and analytical tools to provide private equity managers with greater transparency into fund operations, delivering on-demand data and customized views of portfolio information.

The capital call and smart contract initiatives are further examples of Northern Trust's focus on developing its distributed ledger capabilities to drive efficiencies and security across the private equity lifecycle. These follow launching the world's first commercial blockchain solution for private equity fund administration in 2017 and collaborating with major audit firms to develop direct access to fund data enabling real-time auditing of private equity lifecycle events.

These projects underline the firm's ability to work in partnership with clients, technology firms and industry stakeholders to enact change. ■

TRANSITION MANAGER OF THE YEAR

BLACKROCK

This is the second consecutive year that BlackRock has received the Transition Manager of the Year accolade.

This year's judging panel praised BlackRock's continued investment in its transition management services, including technology and personnel, and highlighted the strength of its international footprint.

The firm has expanded its staffing presence in continental Europe to further support clients in the region.

It has also enhanced its capabilities to service clients in their local language, which now span English, French, Flemish, German, Dutch, Russian, Italian, Swedish, Spanish, Finnish, Danish, Hungarian, Afrikaans, Japanese, Cantonese, Korean, Urdu, and Arabic.

BlackRock's transition management team comprises more than 55 individuals based in eight offices in Europe, Asia, and the US.

This includes locations in London, Budapest, Hong Kong, Sydney, Tokyo, New York, and San Francisco. The transition management team is supported by approximately 140 traders globally, working across all asset classes.

The firm continues to invest in integrated technology and reporting tools. All transitions are conducted via BlackRock's Aladdin platform.

This features transition management functionalities that were designed to address the challenges involved in the most complicated transitions.

In 2018, BlackRock placed particular emphasis on educational initiatives.

ESG (environmental, social and governance) was one of the key themes on the agenda, with information delivered through a range of workshops, teach-ins, and one-to-one meetings. ■

> BlackRock's transition management team comprises more than 55 individuals based in eight offices in Europe, Asia, and the US

BROKER OF THE YEAR

INVESTEC SECURITIES LIMITED

Investec Securities has long been one of the premier brokers in the frontier and Africa markets but has stepped up its game in the past year.

The firm has increased client numbers and revenue, and expanded its traditional offering beyond equities into bonds, equity-linked notes, non-deliverable forwards and foreign exchange. The brokerage has also in the past year created links to new markets.

Investec currently serves over 200 funds investing across 17 markets in Africa and up to 50 global funds with interests in the region. The firm says its success is partly down to the strength of its team, which has over 50 years' covering frontier and African markets, as well as a network of some 45 in-country partners who allow Investec to give clients up-to-the minute insight.

The brokerage arm of the Investec group believes that its larger, more established rivals are feeling the pinch, partly due to regulation. This has created space for a new breed of brokerage company offering new products outside of the traditional equities segment and services designed to enhance the client experience.

With that in mind, Investec aims to create an environment that encourages entrepreneurship and innovation through bespoke solutions. Two recent examples are:

- PML - advancing of individual loans against which Investec's money is guaranteed by collateral (takes the form of a cession and pledge of JSE-listed shares) from the borrowing counterparty.
- ALSI CFDs and Agri CFDs which allow clients to trade the entire ALSI index as a CFD or execute their commodity strategies via AGRI CFDs.

The company has also invested in various new services such as: a full-service high-frequency trading offering based on co-location at the Johannesburg Stock Exchange; an Auto-allocation process for clients; and simplified middle office functions with enhanced work flow processes and customer relationship management systems. ■

> Investec currently serves over 200 funds investing across 17 markets in Africa and up to 50 global funds with interests in the region

TRANSFER AGENT OF THE YEAR

RBC INVESTOR & TREASURY SERVICES

RBC Investor & Treasury Services (RBC I&TS) has global assets under administration of CAD 4.1 trillion (£2.5 trillion) and boasts one of the highest credit ratings among its peer group with a Standard & Poor's AA- and a Moody's Aa2 at the end of February 2019.

Part of the Canadian banking group, RBC I&TS has established itself as a leading transfer agent in Europe with 36% market share of activity through Ireland and Luxembourg according to EFAMA's Fund Processing Standardisation report and the top transfer agent by assets in Luxembourg according to Monterey.

RBC I&TS believes its expertise stems from 30 years' experience in supporting regulated fund structures in Europe. The banking group's fund administration services cover some 11 markets with funds distributed globally leveraging the firm's centres in Luxembourg and Dublin. More recently, RBC I&TS established a dedicated Private Capital Services (PCS) unit with Product, Operations and Service Assurance teams focused solely on these asset classes.

RBC I&TS sees its commitment to and investment in technology as a competitive advantage and is working hard to build "a digitally enabled franchise that can deliver faster, flexible and more in-depth information through convenient channels to inform client decision-making".

Recent successes include:

- Launch of the transformed landing dashboard for RBC One, their online ecosystem providing clients with a range of applications for their transfer agency and fund administration franchises.
- Data & analytics application features which provide clients with access to their data in an interactive and dynamic fashion.
- Data visualisation tools to deliver strategic insight into transaction and portfolio performance, distribution trends and more.
- Risk & investment analytics features, including client application program interfaces (APIs) delivering portfolio analytics data.

RBC I&TS also prides itself on continually improving its client experiences and ranked in the 2019 R&M Investor Services Survey #1 in North America and the UK, and #2 globally. ■

INDEX PROVIDER OF THE YEAR

FTSE RUSSELL

FTSE Russell's core purpose is to help investors make better investment decisions and the LSE-owned index provider does this by ensuring its construction methodologies and operating practices are recognised by institutional investors as being the best practice in the industry, and therefore becoming industry standards.

FTSE Russell is embedded in global investment processes, boasting strong relationships with both the buy and sell side. Covering 98% of the investable market, FTSE Russell indexes offer a true picture of global markets, combined with the specialist knowledge gained from developing local benchmarks around the world. FTSE Russell is focused on index innovation and customer partnership applying the highest industry standards and embracing the IOSCO Principles.

Recent highlights included:

- FTSE Russell delivered 15% revenue growth in 2018 to £631m.
- Over $600bn ETF assets under management benchmarked, including smart beta ETFs worth $184bn.
- China A-Shares to be included in FTSE's global equity benchmarks from June 2019, with circa $10 billion in net passive inflows following completion of the first phase.
- Extended coverage of the China market with the introduction of a new Chinese Green Bond Index Series and the new FTSE Total China Connect Index, which was selected by Vanguard for a new ETF.
- Dutch pension fund Pensioenfonds Detailhandel selected custom FTSE Russell ESG benchmark as the basis of a new €6bn developed market passive equity mandate managed by BlackRock.
- Strategic global partnership with Sustainalytics to develop new ESG indexes.
- Launch of green real estate index series.
- FTSE Russell launched a new Multi-Asset Composite Index Series – a wide range of indexes across major asset classes covering global, regional and emerging markets.
- Extended its relationship with Refinitiv where FTSE Russell already has a long-standing relationship in fixed income data. This extension provides global customers with more choice through rich and broad fixed income data sets, analytics and indexes.
- Acquired 100% ownership of FTSE TMX Global Debt Capital Market. ■

REAL ESTATE FUND ADMINISTRATOR OF THE YEAR

BNY MELLON

During 2018, BNY Mellon was able to grow assets under management in respect of Real Estate Funds from $59.7bn to $114.6bn, an increase of over 92%.

In 2018, BNY Mellon became the first administrator to successfully deploy YARDI in Germany and support daily open-ended funds in this market.

BNY Mellon was also able to complete a project to transition DWS's RE fund accounting, asset management accounting, and client and financial reporting functions, approximately $21 billion in assets, to BNY Mellon's platform.

Achieved through a strategic collaboration between DWS and BNY Mellon, this transition represents one of the industry's largest fund conversions to a new platform. The transition streamlines DWS's real estate business, whilst realising significant cost, efficiency and operational benefits for the asset manager.

Some 80 members of DWS's fund finance team transferred globally to BNY Mellon and became part of its Alternative Investment Services business.

"Transferring services such as fund accounting to specialist third party providers allows us to streamline our business and drive cost and efficiency benefits. We look forward to realizing the advantages of our outsourced approach to our real estate fund accounting," said Georg Allendorf, Head of Real Estate, Europe at DWS.

"Through this transition, we took the opportunity to invest in platform enhancements from which all BNY Mellon customers and prospects can benefit. We now offer a single, scalable platform for property and investment accounting that is global but also tailored to the specific needs of pan-European real estate businesses," said Alan Flanagan, Global Head of Private Markets Solutions at BNY Mellon.

Flanagan added: "Investment managers are increasingly turning to asset servicers who are consistently making the necessary investment in both people and technology to deliver the highest service levels in a global product that also meets regional requirements and execution."

As an organisation, BNY Mellon spends circa $2.5 billion per annum on improving its client-facing technology. ■

EXCHANGE OF THE YEAR

EUREX

The past year has seen Deutsche Boerse's Eurex establish itself among the most innovative of the large exchange groups.

Eurex continues to support its traditional sell-side clients but the German exchange has also introduced derivatives contracts and trading services designed to meet the needs of the buyside by offering exchange-traded, straight-through-processed and centrally cleared alternatives to over-the-counter instruments.

Hedge funds and traditional institutional investors are increasingly turning to total return futures (TRFs) to get exposure to the repo market related to an underlying index such as the EURO STOXX 50® Index. TRFs benefit from the best of both worlds. They are listed, meaning they have the same advantages as EURO STOXX 50® Index Futures but they offer returns analogous to equity index total return swaps.

The ISA Direct clearing solution for derivatives and repos offers buy-side firms direct access to Eurex Clearing (CCP). As a result, clients can more efficiently and securely re-invest or raise Cash Variation Margin for Eurex-cleared OTC IRS by accessing the Eurex Repo GC Pooling cash driven market.

Investment behaviour and regulation continue to evolve. Consequently, exchanges review and adapt their market models to best support market participants and regulatory efforts.

Eurex enhances its market models to attract as much diversified flow as possible to the central limit order book. As there is also a need for large-scale business, solutions to attract this heterogeneous flow on exchange have also been developed.

The new market models support the buy side while at the same time serving the sell side's needs. Eurex's market structure roadmap aims at strengthening fairness in the price discovery process.

To meet its objectives, Eurex drives three initiatives:

- PLP addresses the speed disadvantage some liquidity providers have versus certain aggressive super-fast strategies.
- Eurex EnLight is for large-scale business to ensure transparent and efficient off-book trade conclusions.
- Improve aims to attract additional trading volumes, by providing members with a tool to guarantee towards their end-customers full executions of any trading quantity to the best price available. ■

CLEARING HOUSE OF THE YEAR

LCH

LCH achieved record volumes across its clearing services in 2018 and has carried this momentum into 2019, driven both by the roll-out of new products and the growth of client clearing.

Highlights included:

- SwapClear processed more than $1 quadrillion in notional in 2018, up 23% year-on-year. Importantly compression volumes also rose 27% to +$773 trillion. SwapClear launched Non-Deliverable Interest Rate Swaps for eight additional currencies, and LCH became the first clearing house to introduce SOFR swaps clearing.
- SwapAgent continued to build out its non-cleared offering, processing its first swaptions trades and facilitating the first cross-currency swap compression.
- ForexClear cleared a record $17 trillion in notional, up 55%. In Q1 2019, the service cleared $48 billion of deliverable FX. ForexClear successfully launched deliverable FX Options clearing, and received a license to clear NDFs in Japan.
- CDSClear increased market share, with a record of €1.2 trillion in notional processed across its CDS index and single names offering.
- RepoClear cleared a record €197 trillion. In February 2019, members successfully consolidated Euro debt activity at LCH SA, creating the largest netting pool of Euro debt liquidity of any central counterparty.

LCH, which has been managing risk for more than 100 years, has as its strategic objectives to provide market-leading risk management and clearing solutions, to manage members' and clients' risk by providing effective and efficient clearing services and to promote a safe and stable financial market.

The clearing house's commitment to partnership, innovation and risk management is evident in the breadth of product and service offering that consistently expands each year. For example, LCH now offers clearing for products across 26 currencies.

Through its unique Open Access approach, LCH allows users true choice over where to clear and execute their trading activity. LCH believes Open Access fosters competition and drives innovation, lower clearing costs and improving service standards for all users. ■

COLLATERAL MANAGEMENT SYSTEM OF THE YEAR

FIS

FIS Apex Collateral brought to market a fully integrated uncleared margin rules (UMR) solution offering end-to-end support for the calculation of ISDA SIMM and subsequent two-way exchange of initial margin.

Unlike other market offerings, the Apex Collateral UMR solution supports pre-trade "what-if," back testing and stress testing out of the box. Four phase five clients have signed for the service in the past three months and many others are expected before the deadline.

Additionally, a new cleared and listed derivatives module has been released that offers turnkey collateral operations capability specifically tailored for the brokerage market.

Sponsored by two of the largest global futures commission merchants (FCM), the offering introduces greater efficiency into the daily FCM client margining process and reduces the risk of data mismatches by directly consuming reference data directly from market-leading derivatives middle/back-office system GMI.

FIS has also enhanced Apex Collateral cloud deployed solution with the addition of two new clients, making Apex Collateral the only collateral management vendor that offers a cloud deployed collateral operations, inventory management, optimisation, trading and initial margin calculation service.

In addition to its significant achievements in the past 12 months, most importantly, FIS' Apex Collateral helps clients accelerate their growth and reduce cost.

It is a comprehensive, single solution covering the front-to-back collateral life cycle. By packaging the risk engine into the core of Apex Collateral, clients can achieve full UMR compliance (including all market data, CRIF reconciliation, ISDA SIMM calculation, margin call communication, and automated triparty workflow) from a single turnkey solution. The client doesn't need to manage three to four vendor relationships and manage a complex technical integration, giving the client the ability to focus on its core competency.

Unlike other cloud offerings, Apex Collateral allows the client to upgrade to the latest version whenever they need, all included as part of the service. This allows clients to be regulatory compliant and operational in a matter of days and know they will remain current at a low fixed cost ■

BEST TECHNOLOGY PRODUCT FOR RISK MANAGEMENT

NUMERIX

Numerix has completely reinvented its software stack by embracing new fintech and evolving to meet today's requirements for flexibility and customisation.

As financial institutions seek more flexible solutions designed to address specific business challenges, Numerix technology has been developed to holistically view risk, regulatory impact and decision support across trading systems.

Numerix Oneview, the next generation enterprise pricing and risk platform, is capable of handling both complex products, high volume instruments and a variety of execution styles. The goal of its product strategy is to supply next generation risk and P&L systems to the trading business. The Oneview platform allows for a flexible consumption of solution components – for addressing trading needs, regulatory and risk management so that business units can build adaptive, high-performance environments economically.

The agility of Oneview has enabled Numerix to quickly capitalise on a cloud-first mantra by building and deploying multiple technology solutions through a new managed services platform, which offers a range of diverse applications to support valuation, risk, and infrastructure requirements. Adoption of a reactive microservices framework for faster, event-driven calculations is also central to the strategy going forward.

When the firm started down the path towards achieving the vision for Numerix Oneview, it had a clear understanding of how the underlying architecture could be built to apply to a wide range of use cases within front office trading and risk management.

From an analytics standpoint, the firm has engaged in deep interactions with a diverse set of clients in the building and usage of its core analytics platform, and that's driven the acceleration of the systems built around the analytics capabilities today.

Its analytics library and quantitative prowess are at the core of Numerix's offering. It's the depth of these areas that bring real strength and substance to Numerix solutions. ■

BEST TECHNOLOGY PRODUCT FOR TRADING

DASH FINANCIAL TECHNOLOGIES

Launched in 2016, Dash360 – the web-based transaction cost analysis and real-time analytics platform from agency broker Dash Financial – boasts hundreds of buy side clients who rely on it each day to measure, refine and optimise their trade execution performance.

A true next generation transparency tool, Dash360 provides a real-time, graphic play-by-play of each order, enabling users to pause and replay the liquidity capture performance for complete granularity into execution performance. It also allows complete historical analysis capabilities, allowing users to look at all previous orders in this way, including a recreation of the order book at the time of execution. As an HTML5-developed platform, Dash360 is available on any device, with an impressive User Interface.

Dash provides as standard full transparency into every aspect of every order, doing so through the elegant, HTML-5 based Dash360. The level of detail that Dash provides is rare and sets it apart from the other agency brokers and execution platforms for the buy-side.

The technology also provides clients with full control over all aspects of the way orders are routed, allowing changes to be made in real time, which creates a better user experience.

Dash recognises the risk of conflicts of interest and encourages clients to leverage a "cost-plus" pricing model where the trade execution commission is completely unbundled from all other execution fees.

In recent years, Dash has delivered upgrades to support the introduction of the Mifid II regulations in Europe. More recently the platform added in late 2018 new Closing Auction analytics, detailing historic, predicted and actual market/auction volumes, as well as visualisations of the expected execution schedule and cash flow that Dash's closing benchmark algorithm will take.

In February 2019, Dash added a new suite of real-time analytics, visualisation and reporting tools aimed at portfolio traders. ■

In recent years, Dash has delivered upgrades to support the introduction of the Mifid II regulations in Europe.

BEST TECHNOLOGY PRODUCT FOR REGULATORY CHANGE

RED DEER

Red Deer serves a client base of the world's leading hedge funds, asset managers, wealth managers and pension funds, optimising their investment process by delivering unique insight, while embedding compliance and operational efficiencies within their front, middle and back-office workflows.

Red Deer's award-winning Research Management product, one of a suite of products from the firm, offers buy-side clients a fully compliant and holistic solution for inducement, tracking, valuation and reporting that meets the operational and regulatory demands of Mifid II.

Over the last 12 months, Red Deer has continued to secure client mandates across the asset management, hedge fund and wealth management space, including some of the world's leading investment management firms, which range from $1bn to well over $100bn of assets under management. By using Red Deer's award-winning Research Management product, clients are already seeing a return on their investment as they gain a clearer perspective on the cost of research and the value their firm is extracting.

Red Deer's recent innovations include:

- Outlook Plug-in: Red Deer transformed the front-office inbox into a compliant research hub
- Enhanced Mobile app enables time-strapped front-office users to read research and manage interactions on the move, while allowing Compliance to capture integrated view of consumption
- Advanced search with Red Deer feed: enables greater front office engagement with research
- Invested in further enhancing its automated stakeholder reporting capabilities - providing automated and configurable reporting (dashboards, trending) on consumption to firms' end users, managers of teams and also at enterprise-wide level (i.e. senior governance forums)

In the last 12-18 months, Red Deer also has brought to market its Trade and Communications Surveillance solution. Red Deer now has a growing number of clients combining both its Mifid II and Surveillance solutions in order to increase transparency, accountability and vigilance, while leveraging the unprecedented internal growth in data the regulations are yielding. ■

TECHNOLOGY INNOVATION OF THE YEAR

QUOD FINANCIAL

Quod Financial has been busy in the past 12 months.

The multi-asset trading software firm enhanced its functionality in equities, foreign exchange and derivatives. The company also entered three new markets, built an foreign exchange market-making system, supplied technology to its first digital / crypto client (institutional security token exchange), and partnered and integrated with a best-in-breed fixed income provider to offer full coverage of asset classes. Quod has also built out netting functionality within its foreign exchange execution management system. The firm feels this functionality is a "silver bullet" as no other vendor has the ability to net together separate currency pairs internally.

Quod's market-leading smart order router (SOR) is becoming even more powerful with the introduction of machine learning-enhanced configurations. The firm uses machine learning to give data driven pre-trade insights to clients.

The SOR(s) can also be co-located in multiple locations, and evaluate hundreds of parameters when calculating an execution decision, such as venue costs, latency, hit ratios, historical behaviour, algo threat detection, likelihood of fill, price + 100 others – while still remaining a low latency provider. Quod is also currently working with a client to test a tool which optimises execution parameter configurations.

Quod's system is also "integratable", scalable and modular thanks to a middleware which one Imperial College Professor described as "a masterpiece in systems architectural engineering".

Having prioritised performance, flexibility, impartiality and customisation for 15+ years, Quod has become the go-to technology provider for firms looking to automate their trading and optimise their executions within equities, FX, derivatives, fixed income and digital assets. Having built its reputation with the sell-side, Quod is now working to arm the buy-side with highly specialised, feature-rich technology, bottled it into an easy-to-use, highly customisable platform. ■

Artificial Intelligence – the Key to ESG Analysis

By **Thomas Kuh,** Head of Index, TruValue Labs

Talk is cheap; bad investment decisions aren't. But talk—often grand and occasionally meaningless—remains the primary source of information investors use to understand corporate sustainability performance. Because this type of analysis is an emerging endeavour with few well-established best practices, investors face significant challenges in developing a rigorous, results-driven approach towards a better understanding of key environmental, social, and governance (or "ESG") factors.

To a large extent, this is because such assessments are typically based less on what companies practise and more on what they preach. Emerging technologies, however, present investors with new alternatives. By leveraging cutting-edge data science, "New World" ESG data delivers robust and timely insights that complement and enhance traditional approaches, drive smarter decisions, and help investors gain a competitive advantage.

The Value of "New World" ESG Data

Because there are no generally accepted standards or mandatory line-item reporting requirements related to ESG information, companies can voluntarily report whatever they like (and, conversely, withhold whatever they don't). In fact, a 2013 study of highly-rated sustainability reports revealed that 90% of known negative events went unreported by the company. What's more, it's often the same companies "talking green" that are also "lobbying brown" behind the scenes.

Enter "New World" data. In the era of Big Data, today's investors have access to a massive amount of information on companies that wasn't available just a few years ago. The trick is harnessing it, structuring it, and making sense of it—an impossible task if done by hand. But that's exactly what new technologies, powered by artificial intelligence, are designed to do at scale. Where company reporting provides investors with an "inside out" perspective on ESG performance, "New World" data - from a variety of third-party sources - offers a look from the "outside in." It helps parse the difference between what companies say and what they do.

The Application of Artificial Intelligence

Most ESG research organisations have an AI initiative underway but many are simply using it to execute their current process more efficiently – accelerating the data mining, but still collecting data from the same sources, primarily corporate disclosure, regulatory filings and sustainability reports. What's been missing until recently is the application of AI to harness growing volumes of unstructured data from external stakeholders and uncover risks and opportunities not otherwise readily apparent.

The rate of growth of unstructured date is difficult to comprehend. A reported 90% of the data in the world was generated over the last two years alone. Each day brings another 2.5 quintillion (1018) bytes of newly created data. By 2025, International Data Corporation projects that there will be 163 zettabytes (1021) of data in the world and estimates that 80% of this will be unstructured. In short, the world is awash with unstructured data and a significant portion of this has an impact, or a potential impact, on the analysis of actual or potential corporate performance.

By complementing traditional approaches with advances in Big Data and artificial intelligence, asset managers can unlock the full potential of ESG. Even as company-reported data improves, it will never be sufficient on its own as a basis for meaningful ESG ratings and will always be subject to manipulation.

A corporation is no longer the exclusive author of its own narrative, nor are shareholders the only audience that matters. Yes, company disclosure will continue to be an important element of ESG analysis but will become less determinant as investors develop external perspectives that strengthen the understanding of how ESG issues impact market valuations. By providing access to new sources of data on ESG issues, AI enables analysts to focus on intangible value by incorporating real-time measures of ESG sentiment.

In Conclusion

Technology is no panacea. Consider that AI is behind the phenomenon of high-frequency trading which is, in effect the antithesis of sustainable investing – a trading strategy that is indifferent and unaccountable. So it's not a foregone conclusion that technology will improve ESG analysis or make investment more sustainable.

This is a matter of intentionality – the objectives on which we focus the technology and the uses to which it is applied.

That said, the genie of sustainability is not going back into the bottle – there is no turning back from the nouvelle-vague of ESG investing. Today's superabundance of unstructured data - addressed by artificial intelligence - the promise of a new source of ESG signals. Its future success will depend on finding the right data, analysing it intelligently and implementing it skilfully into the investment process. ■

Independent depositary Indos' chief exec Prew eyes phase of rapid growth

INDOS Financial, the only UK independent provider of depositary services to alternative investment funds, has grown steadily since its inception in 2012 and now boasts assets under oversight of nearly $30 billion.

Yet INDOS chief executive Bill Prew feels the firm is entering a phase of rapid growth as funds become more aware of the benefits of an independent depositary offering and their requirements change as they boost their private equity and real estate holdings.

Prew said the INDOS proposition is a simple one: an independent depositary service provider is more effective than another provider because all of them apart from INDOS are affiliated to a fund administrator.

He told Global Investor: "Most depositaries are connected to and part of the same financial group as their fund administrators which raises questions about the scrutiny that the depositary may subject the fund administrator to, and the willingness to flag underlying administration issues. Since we founded INDOS, it is interesting how many fund administration and other issues we have identified as an independent depositary provider."

Prew said INDOS sees the fund as the client rather than its manager:

"Ultimately the function of the depositary is to protect the investors so sometimes we have to be firm, raising issues to ensure investors are being properly looked after."

This, of course, can put INDOS at odds with the fund administrators or the managers themselves but this is the point of having an independent provider rather than one that is part of the same financial group as, and therefore commercially aligned to, the fund administrator.

Prew said: "Where the depositary is affiliated to the fund administrator, managers and fund boards tell us the depositary is often not visible and issues are rarely raised, whereas we would argue, if the fund is paying for service, why not get proper value out of it?"

Andrew Watson is INDOS' depositary director in charge of private equity and real estate funds, an increasingly lucrative segment for the UK-firm as more investment managers have piled into physical assets such as real estate.

Watson, who joined INDOS in October 2015 and previously worked at the European private equity fund Argan Capital, Bank of America and PwC, told Global Investor:

"I am sure that we are picking up on some issues that wouldn't have come to light if the fund were using a depositary that was part of the same group as the fund administrator. There is no conflict of interest with us, we are completely independent from the fund administrators."

INDOS also subjects its funds to high levels of scrutiny. Prew said: "The industry rule of thumb is that around 10 or more funds will generally be allocated to one depositary analyst whereas we would typically allocate each individual around five funds. Having fewer funds per person means our analysts can get into greater detail with the funds."

Watson added: "Normally the depositary tends to fade into the background after its appointment but we conduct regular manager and fund administrator site visits for example."

Prew said INDOS has also worked hard on its client-facing platform which offers a higher level of service to the underlying funds.

"We have also invested a lot in technology and in particular our DEPOcheck depositary workflow management and oversight system where we have mapped some 36 secure feeds to banks and custodians and 18 feeds to administrators. We can use this to pull-up at any time and demonstrate the work we have done with any individual fund," said the chief executive.

European regulators are keen to make financial services companies more accountable and have introduced rules to unbundle services that were previously closely linked.

For example, the allocation of commission by fund managers to brokers for research and execution, which was previously covered with a single payment, has been unbundled by the European Commission through its revision of the Markets in Financial Instruments Directive.

"Normally the depositary tends to fade into the background after its appointment but we conduct regular manager and fund administrator site visits for example"

Andrew Watson

Prew said: "I do think the AIFMD rule-setters missed a trick in terms of requiring independence of the depositary. Some regulators have issued guidelines requiring depositaries to appropriately manage conflicts and in practice the depositary is a separate legal entity within a group."

But, looking back over the five years or so since the company started trading, Prew said the business has performed well and has proven itself as a multi-asset depositary service provider for traditional hedge funds as well as the growing private equity and real estate sector.

"Some five years after launch, we have established a broad client base. Over the years we have seen many inflection points, for example our first billion-dollar fund and the first switch to INDOS from an affiliated depositary model. Now we support many large hedge, private equity and real estate funds, and complete a number of service switches each year – all driven by funds looking to enhance governance and service quality."

INDOS said the broader move by many investors out of traditional hedge funds that use financial instruments and into private equity and real estate assets to tap the higher returns that these investments yield has presented the firm with an opportunity.

Prew said: "Private equity and real estate has been relatively untouched historically by regulation compared with hedge funds for example. We have seen significant growth in managers investing in private equity and real estate."

He added: "With hedge funds we report on a monthly basis in line with the NAV frequency, whereas in real estate and private equity the NAV cycle is generally quarterly so we adopt quarterly reporting."

Watson, who became INDOS' director for private equity and real estate funds in April 2018, added: "In real estate, part of the challenge is to ensure the ownership rights that a fund has over a particular piece of real estate which can involve drilling down through various Special Purpose Vehicles that may be domiciled in different locations. This can sometimes involve using third party legal advice. As an independent company, we simply cannot afford the reputational risk of getting this wrong."

And Prew said the secular shift to physical assets has opened up a new client type for his firm: "With the transition into real estate and private equity we are starting to pick-up a new breed of client – that is, funds that also want to hold custodial assets. These firms are sometimes too small to attract the interest of the largest custodians and we have the flexibility and regulatory permissions to fill the middle ground."

Prew said INDOS has applied to the Central Bank of Ireland for a license to handle Irish private equity real estate funds. This is its latest commitment to Ireland after the firm set-up in December 2013 an office in Enniscorthy, County Wexford to perform outsourced oversight of non-EU hedge funds.

The chief executive continued: "When it comes to Brexit, there was a big overhang following the 2016 Referendum while we didn't know how the depositary requirements were going to play-out but since then, it has become clear the AIFMD depositary conventions will continue to be applied to UK firms."

Prew said INDOS is also working out its strategy with regard to Luxembourg, the other major European fund market.

He said: "We have looked at setting up a business in Luxembourg but that would be expensive and time-consuming, so we are exploring other options including the possibility of an acquisition."

Client Testimony

Russell Burt, independent fund director at Marbury Fund Services (Cayman) Limited:

I have worked with Indos on a number of our hedge funds as well as some private equity funds and I have been so impressed that I actually refer newly launched funds to them. I would argue that if the fund is paying to have a depository, they might as well get something for it from an independent party

Personally, I am not convinced of the effectiveness where depositories are linked to a fund administrator, where they are all ultimately part of the same financial group. The question is whether the depot is going to hold the fund administrator to account whereas the reporting we get from Indos feels like a proper independent check.

Indos will often pick up on issues that have been missed by the fund administrator while the other depots seem less likely to flag-up issues than Indos.

I feel they are particularly good on private equity funds and they seem to work well with smaller private equity fund administrators.

> "Some five years after launch, we have established a broad client base. Over the years we have seen many inflection points, for example our first billion-dollar fund and the first switch to INDOS from an affiliated depositary model"

Bill Prew

Prew went on to play-down the possibility that INDOS itself might become an acquisition target. "I'm happy with where we are and our rate of organic growth and the range of opportunities that lie ahead. We have had approaches from fund administrators but it would call into question our core business proposition which is based on independence," he said.

Looking ahead, INDOS is looking to position itself for organic growth by tapping new opportunities.

Prew said: "Recently, we have built a digital asset capability on behalf of one fund. The big unknown is how much of the industry will move to these types of assets but we are staying ahead of the curve.."

INDOS is also moving to tailor its offering to make it more relevant to the growing number of investors who want greater insight into the environmental, social and governance (ESG) investment credentials of the firms that manage their investments.

Prew said: "Some 18 months ago, we saw there was more and more interest in ESG funds so we started thinking about ways we could leverage our investment in technology to offer independent ESG oversight. A lot of firms are getting ESG enquiries from investors and many of them value the input we are able to provide".

INDOS selected in early July data firm Vigeo Eiris to supply ESG and Corporate Social Responsibility data allowing INDOS to screen investment portfolios and provide bespoke reporting.

In June, the firm also appointed Seymour Banks as its head of ESG, responsible for leading and developing the firm's independent ESG screening and verification service to asset managers and their stakeholders.

Banks has over 20 years' experience in the investment management industry, predominantly in the alternative asset space. Before INDOS, he was CEO of Hilltop, a boutique fund of fund business, and prior to that a managing director of Signet Capital, the London-based alternative asset manager.

His investment management career started in 1996 at Barclays Global Investors where he was involved in product and business development, including hedge funds, i-shares and the FTSE4Good Index.

Prew continued: "There is a perception of green-washing. Personally, I don't think the industry is as bad in this area as made out but there is a perception, so I think there is a genuine role for INDOS to perform independent ESG oversight. We have entered into an agreement with a recognised ESG data firm to provide the data for one component of our service offering."

The chief executive said the INDOS ESG services could be particularly relevant for pension funds who do not have the necessary ESG analysis tools.

He said: "The largest managers typically have resource focussed on ESG but, for example, UK pension funds and their trustees also need to consider ESG factors so there is a valuable role for us potentially to independently screen ESG policies and report back to these firms to guard against green-washing."

Prew added: "Custodians have started to add ESG scores in reports for the assets they handle but there is no-one in the middle fulfilling a cost effective end-to-end assurance and oversight service."

INDOS has since 2012 ploughed a lone furrow as the only independent depositary services provider and Prew would welcome more competition.

He said: "I would have thought there would have been more awareness about the conflict of interests between fund administrators and depositaries by now but there are few other independent depositaries out there spreading the word. It would be good if there were more independent depositaries out there so we wouldn't be a lone voice."

For now, INDOS is doing a fine job on its own however and, with investor appetites shifting to real assets and ESG strategies, the firm has plenty to think about in the meantime. ■

Biography

Bill Prew, Chief Executive Officer

Prew is a qualified accountant, with over 23 years' financial services experience, starting his career in 1993 in the investment management division of Coopers & Lybrand (now PwC).

After 7 years with PwC in London and Sydney, working with a broad range of financial services clients, he helped to establish an email technology company, before returning to financial services and joining Barclays Global Investors in 2002. At BGI, Prew served as European Chief Financial Officer and then Head of Supplier Management, with responsibility for the management and oversight of BGI's European outsourced supplier relationships, providing custody, fund accounting, transfer agency and client reporting services to over 2,000 accounts and $620bn of traditional long-only and alternative funds.

In December 2007, Prew joined Moore Capital Management to support the spin-out of the management of the $3.5bn Moore Credit Fund to James Caird Asset Management, a hedge fund manager with offices in London and New York. During his time at JCAM, he was responsible for a range of operational areas including finance, legal, compliance, product control, investment operations, fund accounting and technology.

Prew left JCAM in December 2012 to focus full time on AIFMD and the development of the INDOS business.

Centralised collateral management becoming a reality

Bimal Kadikar, CEO of Transcend Street Solutions, considers the opportunities and challenges for firms considering moving to centralised collateral management.

Collateral management has transitioned from an ancillary service to a core competency, largely as a result of the sheer breadth of activity from front to back office and horizontally across silos and asset classes. This has spurred a marked shift towards centralisation of collateral management, providing organisations with a centralised view of inventory as well as funding and collateral optimisation decisions.

But the move to a centralised model is not without challenges. Inefficiencies and the cost of errors are magnified by the multiplicity of internal and external relationships that need to be managed and the requirement to control positions more frequently, even in real-time.

This requires a fundamental shift from managing assets only for margin purposes to managing assets for value, cost and balance sheet purposes.

Moving to a centralised collateral organisation is a difficult step for many reasons and as a result, some firms are decoupling their business organisation from their technology capabilities. They are instead focusing on building a centralised, horizontal technology strategy for inventory and collateral management.

In either case, the end goal may be the same – a holistic infrastructure that can yield the benefits of centralised collateral and inventory management coupled with sophisticated analytics and firm-wide optimisation capabilities. Fortunately, today's technology enables this ultimate goal as well as the smaller moves in this direction.

Steps to collateral optimisation

Regardless of the approach taken, there are a number of best practices for firms looking to increase the efficiency of their collateral and liquidity management:

1. Achieve visibility into inventory across multiple business lines and regions. This centralised view is important.
2. Ensure all collateral schedules and legal agreements are easily accessible as these will impose constraints on decision-making.
3. Take a centralised view of different types of obligations and requirements to enable good decision-making.
4. Establish targeted analytics and Key Performance Indicators (KPIs) to measure and monitor progress of these initiatives.

These are vital steps towards an optimised collateral management environment.

Connected data: The key to better decision-making

Of course, bringing the data together is just one part of the process – the next step is to connect the data so that algorithms and analytics can be applied to it. Firms understand the information is there for them to make better decisions but they face a challenge in getting useable information and putting it to work.

The main obstacle, in most cases, is that they have built their operational structures and technology around specific areas of the business. To achieve a view across the whole enterprise, these businesses require co-ordination and connectivity across a large number of different internal and external systems – not easy to accomplish.

The solution lies in implementing a system that is easy to integrate and is targeted at connecting and harmonising this data.

Avoiding costly re-engineering

There are sometimes negative connotations around the phrase 'legacy technology' but this is not always accurate. A firm's existing securities lending or repo or margin systems may be good, but they will more often than not have been built as separate systems. Rather than re-engineering these systems, what the firm needs is a layer that pulls these disparate systems together to ensure they are seeing a holistic and harmonised view of inventory, positions and obligations.

Most firms have taken some steps to improve their inventory management, but there is a wide difference across the industry in terms of the strategies adopted to achieve this objective. Some organisations are trying to address the issue in a tactical way, fixing one system at a time to see whether this gives them greater visibility but this approach does not have much longevity from a strategic perspective. Larger firms have often taken a more strategic approach.

Regardless of the approach taken, being able to optimise collateral and liquidity decisions at an enterprise level has huge benefits. The sheer number of firms and analysts that have explored the scale of these benefits underlines the significance of the opportunity, and we find most firms are actively taking steps towards achieving these capabilities.

Optimisation models can be implemented with a rules-based approach or even using more sophisticated algorithms (i.e. linear and non-linear programming models). These all have a vital role to play in monetising the connected data across the firm. ■

Intertrust's Miller makes US,

Stephanie Miller, the chief executive of Intertrust, has wasted little time in stamping her mark on the Dutch administrator. Less than 18 months after Miller took the reins, Intertrust announced on June 18 it had reached an agreement to buy US hedge fund administrator Viteos for $330m (£255m), **writes Luke Jeffs**

tech move with Viteos

Viteos is a tech-heavy fund administrator that specialises in middle and back office administration services for hedge funds, private equity, real estate and other alternative managers. The firm is a top ten US fund administrator with over 80 clients and 715 staff. Viteos last full year revenue was $52m, of which almost all (94%) came from the US.

The firm is attractive to Intertrust, the Amsterdam-based administrator that derives only 17% of its revenue from the US, because it ticks various boxes.

Viteos is a funds firm so it is a good fit with Intertrust but it is physically somewhere that Intertrust does not have a huge presence and tech-enabled which offers the opportunity to drive revenue and lower costs. The private equity and real estate business is particular interesting for a firm like Intertrust because those sectors are growing globally at a rate of about 17% a year as money quits hedge funds and other alternatives.

Speaking at the time of the announcement, Miller said the Viteos trade was a "significant leap forward for Intertrust".

She added: "The combination of these world-class businesses enhances our global position in fund services, expands our presence in the US and unlocks many opportunities to cross sell our products and services. It will provide tremendous benefits to our existing clients through advanced technology, a digitised delivery model and a solution-oriented service suite. With the addition of over 700 employees including 130 technology experts, I am particularly excited for the future innovations that our combined organisation will bring to the industry."

Miller and Viteos chief executive Shankar Iyer said the genesis of the deal was an earlier agreement struck in March where Intertrust chose Viteos to handle its technology development.

Iyer said in June: "This is a very exciting opportunity for Viteos to become an integral part of a successful, global business. We have longstanding relationships with the Intertrust team who are familiar with our industry-leading technology solutions. By bringing together our complementary strengths and capabilities, we will significantly enhance the future prospects for the combined group."

Miller told Global Investor she is keen to leverage the best assets at her disposal and this includes Viteos' technology.

"When conducting M&A, firms should have a culture of acceptance to adopt the best-of-breed in everything. With that in mind, we could look to migrate our services to the acquired firm's technology over time."

Miller's growth plans are not limited to the US however.

She said: "I've said I want our fund services business to grow and my plan is to align Intertrust with its greatest corporate opportunities. To that end, I want to offer full fund administration services in as many places as I can. At the same time, I know we can report more frequently and handle regulatory reporting on behalf of our fund clients. Regionally, the focus is on the funds businesses in the US and Asia."

Miller wants to increase the firm's regional coverage but is also looking to support more functions on behalf of its diverse range of customers.

She said: "The opportunity for us is to automate the entire workflow but automating the entire lifecycle will take time so we are looking in the meantime to automate some specific pieces. We are also looking at providing data analytics services to customers." Viteos should play a big part in this ambition.

Miller added: "Blockchain presents some interesting opportunities but there is a privacy issue as the Commission de Surveillance du Secteur Financier (CSSF) [the Luxembourg regulator] has said data cannot be kept in the public cloud while blockchain relies on a distributed ledger. This is not currently a big issue however as blockchain is not widely adopted. I expect we will take baby steps, if we can fully automate bank reconciliations for example, that would be a positive step."

Miller also sees opportunities closer to home.

"In Europe, all of the main anti-tax regulations have been passed so we

Intertrust in Numbers:

Six:	Clients in the top 10 of Fortune Global 500 firms
13:	Key administrative jurisdictions served
29:	Total number of jurisdictions served
715:	Total number of Viteos staff
2,500:	Total number of Intertrust staff
48,400:	Legal Entities served
330m:	US dollars paid for Viteos
496m:	Euros of 2018 revenue

Source: Intertrust

are seeing money moving to Luxembourg or Dublin-based vehicles such as Special Purpose Vehicles. Where funds need to create a company to buy real estate for example, we can help them set up the legal entity, handle the accounting and ensure that the entity is conducting business properly. We can even do the fund administration or give it up to a master fund administrator."

She added: "Luxembourg has proved popular for European investors looking to stick their toe in the water. While Dublin has a great regulator in the CBI, the Luxembourg regulator, the CSSF, is pro-funds and pro-business so first-time investors tend to gravitate towards Luxembourg structures."

Intertrust has businesses in both Dublin and Luxembourg but its Dublin book is smaller because the firm has been in Luxembourg far longer.

Of course the big cloud hanging over Europe in the middle of 2019 is the UK leaving the European Union, something which should happen on October 31. Given the uncertainty around this process, most European firms have put in place provisions to ensure they can continue to operate in the UK and Europe post-Brexit whatever happens.

Miller told Global investor: "In terms of Brexit, we have been focused on new openings and wind-downs, and this work is ongoing. There have been some examples of "lift and shift" with some pharmaceutical companies going to Holland and some tech-enabled firms going to Singapore.

> "Given we don't know what is going to happen we have been working with firms who want to open up new entities and close or minimise their presence in the UK"

"Given we don't know what is going to happen we have been working with firms who want to open up new entities and close or minimise their presence in the UK. We can help them keep a small footprint here until we all know what is going to happen. Funds are largely going to Luxembourg and Dublin, where the IDA has done a great job of promoting Ireland. Ultimately, regulation is annoying for clients but, for us, regulation is a revenue opportunity."

Much of the regulation that has been drafted into law over the past decade since the financial crisis of 2008 has been targeted at investment banks which has seen these previously universal banks withdraw in recent years from less lucrative functions such as fund administration.

Miller said this is a good time to be an independent fund administrator. "When we look at the banks, they obviously need help. They do custody well but with real estate structures, there is no physical ownership so putting real estate assets in a custody system is problematic."

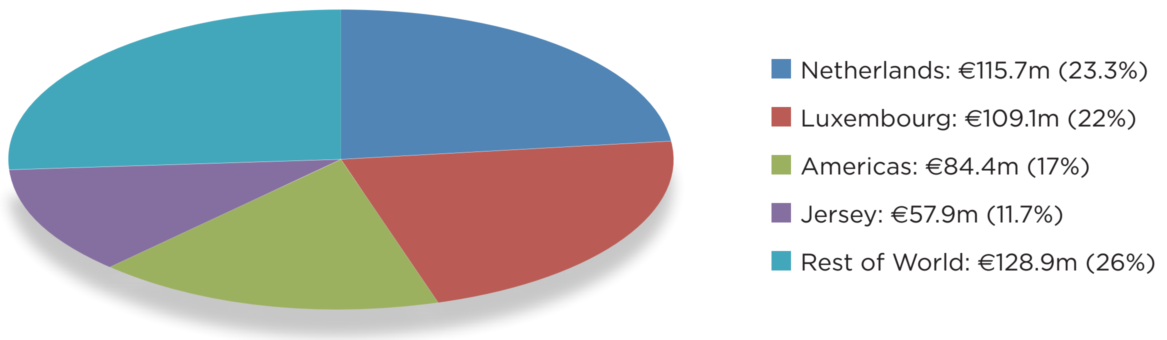
As one of the only female chief executives in the fund administration business, Miller also has some strong views about how women can go further in this business, and again technology plays a part.

Miller said: "I have always tried to be the best chief executive in the room rather than the best female chief executive in the room. And I have always had the flexibility and drive to succeed but I think in this day and age it is important to allow people to work from home. If you look at modern technology, I can't imagine why we can't find a way to get this done. It's about striking a balance and sharing work which would mean that women are not crucially taken out of the workforce during their best years. I don't love the idea of quotas to be honest but I am at least supportive of the concept to pave the way for progress on this issue."

Miller has underlined her ambition with the Viteos deal but it is only her first move at the start of what looks like an interesting chapter for the Dutch firm. ■

Geographic breakdown of 2018 Revenue:

Source: Intertrust 2018 Annual Report



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GLOBAL CUSTODY SURVEY 2019

BNY Mellon came in with the highest global total score and J.P. Morgan achieved the highest overall average. Both banks, alongside HSBC, performed well in the service categories, while Pictet stood out across the overall and service unweighted categories. Analysis by **Louise Fordham**

Global Custody Awards 2019 – methodology

METHODOLOGY:

Global Investor invited asset managers, asset owners, and banks to rate their global custodians as part of the annual Global Custodian Survey.

Respondents were asked to rate the overall performance of their global custodians based on client type, region, and size of client. They were also invited to rate their global custodians across 16 service categories, which were then broken down into sub-categories. Respondents were asked to rate their global custodians from 1 (very poor) to 7 (flawless) in each of the sub-categories. The service categories included: cash management; class actions; client services; corporate actions; execution services; foreign exchange services; fund accounting quality; income collections; industry knowledge; network; performance measurement; relationship management; reporting; safety of client assets; settlements; tax services.

In the tables that follow, global custodians' results are presented in alphabetical order with the winning score in each column highlighted in red. There are three regional columns for Europe, Middle East and Africa (EMEA), the Americas, and Asia Pacific (defined by where the respondent is based). There are two global columns – global total and global average. Where a global custodian was not appraised in a certain region, the relevant field is left blank.

Where a custodian is ranked in only one region, the global totals and global averages are similarly left blank.

A minimum number of responses were required for a global custodian to qualify for inclusion in the survey. If different people from the same entity in the same region rated the same global custodian, the responses are treated as a single grouped response for the purposes of qualification. The two or more responses are averaged (where only one respondent rated the firm in a particular sub-category this score is used unchanged).

Weighted and unweighted results

The results are presented in weighted and unweighted form. The unweighted tables simply contain an average of the relevant scores of the category tables (which are themselves averages of the sub-category scores). Each category is assigned an equal weighting, regardless of how many sub-categories there are for that category or how important they are considered by respondents.

The weighted tables contain a two-stage calculation process, combining stages that allow for the respondents' assets under management (AuM) and the importance that the respondents attach to each service category.

The first stage attributes greater weight to the ratings of respondents with a larger AuM. Each respondent is put into a quartile depending on its AuM. The scores of the respondent are then given a weighting based on this quartile. As the boundaries of each quartile are determined by all the responses received in this year's survey, the boundaries are unknown until the survey closes.

This stage is the entire methodology of the weighted service category tables (as category importance is not relevant) and is the first stage of creating the weighted overall tables.

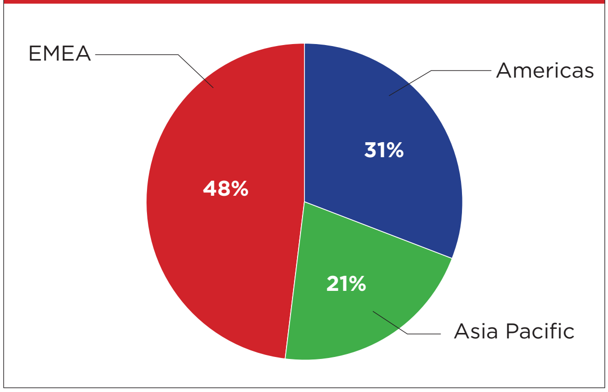
The respondents are asked to rank the service categories (not sub-categories) in order of importance. The core and value-added categories are mingled in this list (i.e. some value-added services may be considered more important than some core categories). An average is then created based on the rankings of all respondents. These weightings are then applied to the weighted (by AuM) service category tables to create the overall weighted tables.

The more important a category is considered, on average by all respondents, the greater the weight is attached to that category (and by extension all the sub-category scores in that category). Weightings are normalised around 1 to preserve comparability with the raw data scores.

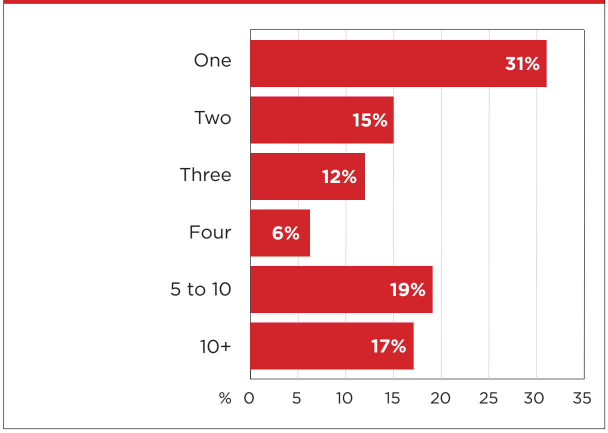
Respondent profiles

The 2019 survey received more than 250 responses. In this year's survey just under one third (31%) of respondents use a single global custodian, while 19% employ the services of five to 10 custodians and 17% utilise more than 10 global custodians. A quarter of respondents (25%) are mutual funds or UCITS, 16% are pension funds, 12% are insurance firms, 8% are banks or brokers, and a further 4% are hedge funds.

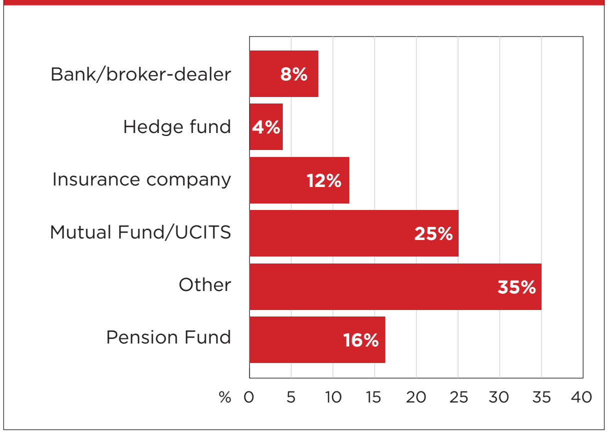
Where are the survey respondents located?



How many custodians do the survey respondents use?



What types of firms are the survey respondents?



Respondents were asked to rate the overall performance of their global custodians based on client type, region, and size of client.

J.P. MORGAN

This year J.P. Morgan achieved an average global score of 7.54 in the overall weighted table, climbing to the top of the rankings on the back of strong scores in EMEA (7.71) and Asia Pacific (7.19). This is the second year in a row that the bank has been ranked as the highest performer in EMEA in the overall weighted table.

The bank did particularly well in the multiple custodian tables, achieving the highest global total score and highest average score on a weighted basis. Regionally, it was seen as the leader in EMEA (8.19), came in second in the Americas (8.29) and Asia Pacific (7.37) weighted categories, and top in the Asia Pacific unweighted category (6.62).

For respondents with assets under management greater than $3 billion, J.P. Morgan was considered the frontrunner in EMEA (8.19) and it gained the highest average score (7.98) in the weighted table.

It is worth noting that J.P. Morgan clocked up the highest scores in 11 of the weighted overall service categories, including cash management, client services, corporate actions, foreign exchange services, income collections, industry knowledge, network, relationship management (joint top with HSBC), reporting, settlements, and tax services.

One client highlighted the bank's "excellent system and service" and praised it for always being on hand to help when needed. Another stated that J.P. Morgan was always professional and results oriented, adding: "They went above and beyond and did everything they could to ensure a great outcome. We couldn't have asked for a better custodian."

> It is worth noting that J.P. Morgan clocked up the highest scores in 11 of the weighted overall service categories

OVERALL (Weighted)

COMPANY NAME	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL TOTAL	AVERAGE
BNP Paribas	4.58		4.66	9.24	4.60
BNY Mellon	5.82	**8.20**	5.03	**19.05**	6.82
Citi	5.70	7.35	5.92	18.97	6.37
HSBC	6.59		**8.18**	14.77	7.29
JPMorgan	**7.71**		7.19	14.90	**7.54**
Northern Trust	5.38	5.29	6.87	17.54	5.65
Pictet	5.13	5.72	7.42	18.27	5.55
RBC Investor & Treasury Services	5.67	4.85	5.21	15.73	5.21

OVERALL (Unweighted)

COMPANY NAME	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL TOTAL	AVERAGE
BNP Paribas	5.38		4.92	10.30	5.24
BNY Mellon	5.14	5.84	5.60	16.58	5.54
Citi	5.65	5.77	5.30	16.72	5.63
HSBC	5.89		6.43	12.32	6.13
JPMorgan	5.63		6.58	12.21	6.03
Northern Trust	5.52	5.50	5.75	16.77	5.56
Pictet	6.21	**6.57**	**6.75**	**19.53**	**6.40**
RBC Investor & Treasury Services	**6.30**	6.40	5.89	18.59	6.27

OVERALL SERVICE CATEGORIES (Weighted)

COMPANY NAME	CASH MANAGEMENT	CLASS ACTIONS	CLIENT SERVICES	CORPORATE ACTIONS	EXECUTION SERVICES	FOREIGN EXCHANGE SERVICES	FUND ACCOUNTING QUALITY
BNP Paribas	4.41		4.48	4.47	4.58	4.53	4.53
BNY Mellon	5.91		6.79	6.37	**6.61**	5.82	
Citi	5.78		6.18	5.95	5.97	5.46	
HSBC	6.32		7.30	6.91			**6.48**
JPMorgan	**7.00**		**7.39**	**7.31**		**7.10**	
Northern Trust	5.16		5.76	5.61		5.16	5.35
Pictet	5.02	**5.08**	5.61	5.45	5.20	4.73	5.33
RBC Investor & Treasury Services	4.86		5.09	5.07	5.08		

OVERALL SERVICE CATEGORIES (Unweighted)

COMPANY NAME	CASH MANAGEMENT	CLASS ACTIONS	CLIENT SERVICES	CORPORATE ACTIONS	EXECUTION SERVICES	FOREIGN EXCHANGE SERVICES	FUND ACCOUNTING QUALITY
BNP Paribas	5.13		5.20	5.14	5.50	5.22	5.35
BNY Mellon	5.14		5.81	5.45	5.85	5.15	
Citi	5.34		5.72	5.55	5.64	5.20	
HSBC	5.81		6.28	6.00			6.00
JPMorgan	5.73		6.08	6.01		5.92	
Northern Trust	5.24		5.83	5.64		5.17	5.52
Pictet	**6.17**	**6.43**	**6.72**	**6.45**	**6.50**	**5.98**	**6.39**
RBC Investor & Treasury Services	6.08		6.39	6.26	6.40		

BNY MELLON

BNY Mellon claimed the top spot in this year's weighted overall table when it came to the highest total global score (19.05). It was also the most highly-ranked global custodian in the Americas (8.2), maintaining the leading position it achieved in this region in 2018.

Indeed, BNY Mellon scored highly in the Americas across the survey, achieving the highest score for this region in the multiple custodian (8.43) and single custodian weighted tables (7.4), mutual fund/UCITS weighted table (8.17), and among respondents with more than $3 billion-worth of assets under management (8.49).

In addition, the bank achieved the highest average score in the mutual fund/UCITS and single custodian weighted tables, as well as being recognised for the quality of its execution services with a top ranking score of 6.61 in the weighted table. This represents an improvement on 2018, when the bank came in second place for execution services with a score of 5.99.

Respondents praised the bank's focus on technology and the contribution its investment in this area has had on its interactions with clients. As one client noted: "BNY Mellon is a first-class custodian that is very client focused. BNY Mellon has made a major investment in technology relating to custody and fund accounting."

Another added: "BNY Mellon's people are highly qualified and the services provided match the quality of the people. They are very responsive to client needs and deliver quality solutions."

> BNY Mellon achieved the highest average score in the mutual fund/UCITS and single custodian weighted tables

PICTET

Pictet swept the board in the unweighted service categories, taking the top spot in all 16. It also came out on top in the overall unweighted table, scoring 6.57 in the Americas and 6.75 in Asia Pacific, as well as the highest global total score (19.53) and the highest average score (6.4).

It achieved the highest average score in the multiple custodian (6.38) and single custodian unweighted tables (6.43), with strong results in the Americas and Asia Pacific, respectively. It also led the pack in the two regions in which it qualified (EMEA and the Americas) in the unweighted table for clients with assets of more than $3 billion under management.

In the weighted tables, it received the second highest score for Asia Pacific in the overall table (7.42) and the top spot in the single custodian table for the same region (6.59).

Among mutual fund respondents, Pictet was recognised with the highest score in the Americas on an unweighted basis (6.47) and the second highest score in the Americas on a weighted basis (8.01).

"Pictet is a top-class bank with outstanding services. They have very reliable staff and tools, and an ability to respond quickly and effectively to customers' queries," stated a client. Another added: "Excellent and very dedicated staff, who constantly strive to make the very good service even better."

Respondents also noted Pictet's website for its user experience: "Superb website; ease of access to information anywhere at any time, coupled with security of information."

> Pictet swept the board in the unweighted service categories, taking the top spot in all 16.

INCOME COLLECTIONS	INDUSTRY KNOWLEDGE	NETWORK	PERFORMANCE MEASUREMENT	RELATIONSHIP MANAGEMENT	REPORTING ASSETS	SAFETY OF CLIENT	SETTLEMENTS	TAX SERVICE
4.51	4.57	4.35		4.73	4.48	5.18	4.76	4.48
6.44	6.52	6.53		6.79	6.40	6.82	6.49	6.34
6.01	6.10	6.16		6.42	6.04	6.71	6.29	5.25
7.06	7.20	7.02		**7.65**	6.78	**7.88**	7.03	6.95
7.34	**7.31**	**7.44**		**7.65**	**7.42**	7.68	**7.29**	**7.07**
5.43	5.57	5.74		5.88	5.36	5.95	5.67	5.24
5.41	5.35	5.34	**5.19**	5.61	5.37	5.49	5.56	4.91
5.17	5.28	5.26		5.00	4.98	5.32	5.15	

INCOME COLLECTIONS	INDUSTRY KNOWLEDGE	NETWORK	PERFORMANCE MEASUREMENT	RELATIONSHIP MANAGEMENT	REPORTING ASSETS	SAFETY OF CLIENT	SETTLEMENTS	TAX SERVICE
5.06	5.32	4.98		5.49	5.05	5.95	5.48	4.83
5.54	5.58	5.64		5.83	5.53	5.92	5.62	5.32
5.57	5.65	5.73		5.89	5.58	6.26	5.82	5.16
6.13	6.25	6.03		6.45	6.00	6.60	6.06	6.04
6.04	6.04	6.17		6.30	6.12	6.32	6.02	5.81
5.52	5.73	5.63		5.93	5.41	6.07	5.71	5.1
6.50	**6.45**	**6.41**	**6.56**	**6.69**	**6.33**	**6.65**	**6.51**	**6.21**
6.38	6.33	6.08		6.28	6.21	6.61	6.36	

HSBC

As in 2018, HSBC achieved the top Asia Pacific ranking in the overall weighted table. Its score for the region has increased over the last year, rising from 7.5 to 8.18. The bank also scored highly in EMEA, coming in second with 6.59.

HSBC performed well across the regional categories for EMEA and Asia Pacific. It came in first place in the multiple custodian weighted table in Asia Pacific (7.92) and second in EMEA (6.99); and first in Asia Pacific and second in EMEA for the assets under management greater than $3 billion weighted table, with scores of 8.18 and 7.28, respectively.

The bank was recognised for the stand-out quality of its services across three areas on a weighted basis: fund accounting (6.48); relationship management (7.65); safety of client assets (7.88).

A number of respondents were complimentary about HSBC's relationship management team. As one said: "We feel HSBC score particularly strongly on relationship management. The team there is extremely responsive, helpful, and knowledgeable."

A further respondent commented: "The custodian has a top-tier automated platform to process instructions and report positions seamlessly. On many occasions, the supporting teams are willing to go the extra mile to help solve problems or accommodate last-minute requests. With its vast global network, the custodian is able to provide support in many emerging markets as well."

> "The custodian has a top-tier automated platform to process instructions and report positions seamlessly"

MULTIPLE CUSTODIAN (Weighted)					
COMPANY NAME	**EMEA**	**AMERICAS**	**ASIA-PACIFIC**	**GLOBAL TOTAL**	**AVERAGE**
BNP Paribas	4.58		4.28	8.86	4.51
BNY Mellon	6.10	**8.43**	5.97	20.50	7.25
Citi	5.60	7.46	6.03	19.09	6.52
HSBC	6.99		**7.92**	14.91	7.46
JPMorgan	**8.19**	8.29	7.37	**23.85**	**7.86**
Northern Trust	5.83	5.18	6.95	17.96	5.92
Pictet	5.93	5.99		11.92	6.10
RBC Investor & Treasury Services	5.68	5.32	3.92	14.92	5.21
Societe Generale	4.80				
State Street		5.72			

MULTIPLE CUSTODIAN (Unweighted)					
COMPANY NAME	**EMEA**	**AMERICAS**	**ASIA-PACIFIC**	**GLOBAL TOTAL**	**AVERAGE**
BNP Paribas	5.39		4.67	10.06	5.22
BNY Mellon	5.23	5.69	5.38	16.30	5.48
Citi	5.45	5.79	5.38	16.62	5.59
HSBC	5.68		6.38	12.06	6.03
JPMorgan	5.71	5.38	**6.62**	17.71	6.05
Northern Trust	5.68	5.11	5.54	16.33	5.46
Pictet	6.11	**6.53**		12.64	**6.38**
RBC Investor & Treasury Services	**6.23**	6.37	5.46	**18.06**	6.14
Societe Generale	5.85				
State Street		4.39			

SINGLE CUSTODIAN (Weighted)					
COMPANY NAME	**EMEA**	**AMERICAS**	**ASIA-PACIFIC**	**GLOBAL TOTAL**	**AVERAGE**
BNP Paribas	4.55		5.04	9.59	4.76
BNY Mellon	5.09	**7.40**		12.49	**5.63**
Citi	**5.86**				
HSBC	5.69				
Northern Trust	4.66	5.42		10.08	5.17
Pictet	4.39		**6.59**	10.98	4.65
RBC Investor & Treasury Services	5.65	4.49	6.51	**16.65**	5.20

SINGLE CUSTODIAN (Unweighted)					
COMPANY NAME	**EMEA**	**AMERICAS**	**ASIA-PACIFIC**	**GLOBAL TOTAL**	**AVERAGE**
BNP Paribas	5.37		5.17	10.54	5.29
BNY Mellon	4.89	6.34		11.23	5.70
Citi	5.98				
HSBC	6.38				
Northern Trust	5.26	5.96		11.22	5.72
Pictet	6.31		**6.66**	12.97	**6.43**
RBC Investor & Treasury Services	**6.43**	**6.43**	6.31	**19.17**	6.41

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CITI

Among respondents that utilise a single custodian, Citi was seen as the top provider in EMEA (5.86), up from fourth place in 2018's survey. It also overtook four other custodians over the year to gain the highest average score and highest global total score among mutual funds in 2019's unweighted table.

When looking at results by assets under management, Citi gained the highest global total score in the assets under management greater than $3 billion weighted table and in EMEA for the less than $3 billion assets under management weighted table.

In the overall weighted table, Citi came in a close second in the global total score (18.97) and in the Americas (7.35).

Citi was commended by respondents for its international footprint and expertise in international markets, as well as its client-centric approach. "Citi is committed to understanding our needs and servicing us well. Citi spends a significant amount of time with all layers of our organization to address issues and successfully executes on change driven by our business needs. We have seen Citi make significant strides in terms of data accessibility," stated one respondent.

Another summed up Citi's strengths as: "Strong relationship and service management coverage; demonstrate quality and expertise in execution of service; supported by knowledgeable staff; network - global player with excellent coverage and access to local expertise; provide market knowledge and expertise in relation to industry and regulatory events; adapting and improving services to keep pace with market trends and requirements as demonstrated by the introduction of Clarity and Proximity services."

RBC INVESTOR & TREASURY SERVICES

RBC scored the highest global total in both the weighted and unweighted single custodian tables. In the latter, the bank was also recognised as top in the regional EMEA and Americas categories, with 6.43 points in each.

Among respondents using multiple custodians, RBC racked up the highest global total score on an unweighted basis, leading the EMEA category (6.23) and coming second in the Americas (6.37). The bank was also recognised for its performance in EMEA in the overall unweighted table (6.3) and mutual fund / UCITS unweighted table (6.25).

> Among respondents using multiple custodians, RBC racked up the highest global total score on an unweighted basis

For survey respondents with AuM under $3 billion, the bank achieved the highest average score, highest total global score, and the top ranking in EMEA and Asia Pacific on an unweighted basis. RBC also held strong positions in the AuM under $3 billion tables in 2018.

According to one respondent, "[RBC is a] strong bank but it's the quality of the staff and commitment to client service that put it above others."

Meanwhile, another client said: "RBC has been a great partner, bringing the appropriate resources where needed for our continued growth."

> Citi was commended by respondents for its international footprint and expertise in international markets, as well as its client-centric approach

MUTUAL FUND/UCITS (Weighted)					
COMPANY NAME	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL TOTAL	AVERAGE
BNP Paribas	5.40		**4.28**	9.68	4.92
BNY Mellon	5.90	**8.17**		**14.07**	**7.12**
Citi	5.81	7.30		13.11	6.70
HSBC	6.75				
JPMorgan	**7.62**				
Northern Trust	6.04				
Pictet		8.01			
RBC Investor & Treasury Services	5.45				
Societe Generale	4.39				
State Street		6.52			

MUTUAL FUND/UCITS (Unweighted)					
COMPANY NAME	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL TOTAL	AVERAGE
BNP Paribas	5.42		**4.67**	10.09	5.10
BNY Mellon	5.13	5.89		11.02	5.54
Citi	6.03	5.82		**11.85**	**5.82**
HSBC	5.78				
JPMorgan	5.92				
Northern Trust	5.74				
Pictet		**6.47**			
RBC Investor & Treasury Services	**6.25**				
Societe Generale	5.31				
State Street		4.76			

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"We consider Northern Trust to be a top-tier custodian"

NORTHERN TRUST

Northern Trust had the highest global total score in the unweighted table for respondents with more than $3 billion-worth of assets under management.

It also performed well in Asia Pacific, taking third place in the multiple custodian weighted table (6.95) and fourth place in the overall weighted table (6.87).

"Northern Trust's relationship management team takes the time to understand our business and connect us with senior leaders within their organisation in order to share strategic goals, which in turns enables us to better plan for our future business needs," noted one respondent.

Another added: "We consider Northern Trust to be a top-tier custodian and their total commitment to providing world-class custody and administration services is unrivalled."

Further comments included: "All-round good service and fully integrated to our systems. It feels more like a partnership than an outsourcing relationship."

BNP PARIBAS

BNP Paribas received solid scores across the EMEA region. This includes the overall unweighted table (5.38), multiple custodian unweighted table (5.39), single custodian unweighted table (5.37), mutual fund/UCITs unweighted table (5.42), and the AuM greater than $3 billion weighted table (5.74).

The bank has also achieved improved scores in EMEA in the weighted mutual fund/UCITS table (5.4) and the AuM greater than $3 billion unweighted table (5.42).

Respondents highlighted the strength of relationships between clients and account managers/teams at BNP Paribas, in addition to the level of expertise among staff.

As one respondent noted: "BNP Paribas are very helpful and efficient. They take extra initiative and effort to provide solutions to the client."

Respondents highlighted the strength of relationships between clients and account managers/teams at BNP Paribas

ASSETS UNDER MANAGEMENT GREATER THAN $3BN (Weighted)

COMPANY NAME	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL TOTAL	AVERAGE
BNP Paribas	5.74				
BNY Mellon	6.05	**8.49**		14.54	7.42
Citi	6.69	7.35	6.45	**20.49**	6.96
HSBC	7.28		**8.18**	15.46	7.71
JPMorgan	**8.19**		7.65	15.84	**7.98**
Northern Trust	5.86	5.62	7.61	19.09	6.20
Pictet	6.78	7.28		14.06	7.15
RBC Investor & Treasury Services	6.48				
Societe Generale	5.57				

ASSETS UNDER MANAGEMENT GREATER THAN $3BN (Unweighted)

COMPANY NAME	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL TOTAL	AVERAGE
BNP Paribas	5.42				
BNY Mellon	5.11	5.79		10.90	5.51
Citi	5.38	5.77	5.25	16.40	5.54
HSBC	5.96		6.43	12.39	6.19
JPMorgan	5.71		**6.51**	12.22	6.00
Northern Trust	5.45	5.27	5.71	**16.43**	5.45
Pictet	**6.22**	**6.33**		12.55	**6.31**
RBC Investor & Treasury Services	6.21				
Societe Generale	5.63				

ASSETS UNDER MANAGEMENT LESS THAN $3BN (Weighted)

COMPANY NAME	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL TOTAL	AVERAGE
BNP Paribas	3.02				
BNY Mellon			3.91		
Citi	**4.42**				
Northern Trust	4.30	4.72			4.36
Pictet	4.03	4.59		8.62	4.51
RBC Investor & Treasury Services	4.25	**4.77**	**4.22**	**13.24**	**4.56**

ASSETS UNDER MANAGEMENT LESS THAN $3BN (Unweighted)

COMPANY NAME	EMEA	AMERICAS	ASIA-PACIFIC	GLOBAL TOTAL	AVERAGE
BNP Paribas	5.33				
BNY Mellon			5.50		
Citi	5.99				
Northern Trust	5.66	5.90			5.80
Pictet	6.21	**6.75**		12.96	6.46
RBC Investor & Treasury Services	**6.46**	6.56	**6.23**	**19.25**	**6.47**

ISLA meets in Madrid to discuss the three Ds

Securities finance experts met in Madrid in June for the **International Securities Lending Association's (ISLA)** annual gathering. Diversity, digitalisation and the development of ESG were among the hot topics.

Spain might seem an odd location for a securities lending event given it is the only major market in Europe where mutual funds aren't allowed to lend their assets. However, the Spanish government re-opened the debate a year ago by publishing a new consultation and this year's conference provided an opportunity for a timely update.

"Subsequent political changes in Spain early this year delayed this progressing through the legislative process into implementation, however recent feedback would suggest that the process is under review once again, and one remains optimistic that a positive outcome is imminent," said ISLA's chairman Andy Dyson.

"International funds sold to Spanish investors are growing at three times the rate of domestic ones, which makes this decision ever more critical if one considers the unlocking of this liquidity."

For the first time at the conference, now in its 28th year, representatives of both ISLA and the International Capital Market Association (ICMA) decided to come together and provide a joint presentation on Securities Financing Transactions Regulation (SFTR) and Central Securities Depository Regulation (CSDR).

Adrian Dale, ISLA's director of regulation and market practice, discussed upcoming stock loan and repo reporting requirements due in April 2020 and the key challenges as firms look towards compliance.

The head of Europe's financial watchdog was also in attendance. Steven Maijoor, chair of the European Securities and Markets Authority (ESMA), told delegates that the regulator is working to turn securities finance data into intelligence, although the group's analytical capabilities need to be improved.

"Expectations for SFTR are high," Maijoor added. "We, as regulators, are expected to gain good insights."

When it comes to future SFTR data uses, Maijoor said central banks could use the information to shape their monetary policy decisions. Regulators, meanwhile, will be able to calibrate future rules, such as haircuts on collateral.

The data is also likely to be used to assess the build-up of leverage and shed light on the re-use and reinvestment of cash collateral, Maijoor concluded.

On CSDR, James Montgomerie, chair of the ISLA CSDR working group and Andy Hill, senior director, market practice and regulatory policy at ICMA talked about the scope, aims and timelines for the European rules, as well as the ongoing work of both associations to identify root causes and remedies of ongoing settlement inefficiencies.

Another panel at the event looked at the complex political landscape in Europe, including Brexit, and what it means for securities finance.

"Europe is at something of a crossroads and is being buffeted by many different forces," Dyson said, reflecting on the discussion. "On the one hand, Europe is having to react to the rising global agenda of populism, yet on the other the practicalities of dealing with the uncertainties of Brexit dominate the news and political agenda. This is leading to a point where the political agenda is driving macroeconomics, rather than the other way around."

Where there has been much reliance on London markets, especially for market liquidity, this cannot necessarily be relied upon in the future.

"The crossroads that Europe is at presents something of a conundrum which can be seen very starkly in our markets," the ISLA chairman continued. "Europe, unlike the US does not have the luxury of isolationism and is neither energy nor trading self-sufficient. This is no different in our markets, where circa 60% of all open loans come from a lender who

is outside of Europe. Our business models therefore need to be both open and flexible."

ESG

"ESG was a theme that resonated across the three days of the conference," Dyson added. "Although a topic that is only now becoming prominent in our world, the broader sustainable finance agenda is now defining future policy and legalisation."

This discussion was timely in light of the recent publication of the European Commission's Technical Expert Groups reports on the use of taxonomy in the context of sustainability (published on June 18).

A panel session considered the implications of how our markets will have to adapt and change their thinking to ensure that securities lending can co-exist alongside the principles associated with ESG.

Dyson explained: "Panellists highlighted how ESG factors are already used during most asset allocation processes, and that these principles are now seen as integral to investment management. The panel suggested that any lending activity has to be consistent with the investment ethos of the fund. This will include the type and profile of any collateral received, as well as how potentially lent securities may be used by borrowers."

In addition, the panel felt that it was important for lenders to have a clear governance policy that will dictate how they may recall securities to ensure that as responsible investors, they exercise their voting rights, especially around sensitive decisions.

The session concluded with a recommendation that lenders should develop clear policies around securities lending.

Digitalisation

A session bought together a number of key industry stakeholders to talk about where the technology debate is taking us and the current drivers for change.

The debate covered how the role of technology today is increasingly more aligned to the needs of the business.

Equally, it was also suggested that should our markets have access to a fully developed Common Domain Model – a blueprint for how derivatives are traded and managed across the trade lifecycle - the cost of compliance and implementation of SFTR could be reduced by circa 50%.

Clive Ansell, head of market infrastructure and technology from the International Swaps and Derivatives Association (ISDA) took delegates through the development of ISDA's CDM.

Set against this backdrop, the session then touched upon how the digitalisation of master agreements will also bring immediate benefits associated with the standardisation of common terms and conditions, as well as facilitating more efficient one-to-many documentation updates.

"As we heard more about this specific issue, it was clear that our markets have been something of an island and today we lag behind some of the leading edge thinking about how to take a broader documentation platform forward within a digital framework," Dyson commented.

"Aligned to the work around the digitalisation of our legal frameworks and trading flows, the session also looked at the work being down to tokenise collateral. This will allow ownership of collateral to pass without physical movements within custody accounts, and will have far reaching implications for all aspects of our industry and the broader asset servicing community. "

Creating A More Diverse Industry

The final presentation was delivered by Jon Terry, Global Financial Services People Leader at PwC, who began by explaining why diversity and inclusion matter, and the catalysts that are driving change; governmental focus, regulatory focus, greater disclosure requirements, talent looking for employers with similar values, heightened investor awareness, increased customer awareness and greater media attention.

"ISLA is committed to both diversity and inclusion within the Association, as well as the broader industry and financial markets. Although Jon focused on gender equality during the earlier ISLA/Women in Securities Finance Breakfast event, this presentation expanded on that and a number of other important themes," said Sejal Amin, head of events, marketing & communications.

During his presentation, PwC's Terry began by explaining why diversity and inclusion matter, and the catalysts that are driving change; governmental focus, regulatory focus, greater disclosure requirements, talent looking for employers with similar values, heightened investor awareness, increased customer awareness and greater media attention.

"Diversity has positive implications for customers, returns, team innovation and value, attractiveness as an employer, and reputation and brand," ISLA's Amin concluded. ■

How sec finance is adapting to tech advances

Securities finance markets across the Americas are imposing greater demands on technology as they seek to move beyond automation into process improvement, as **Paul Golden** reports.

In a recent article on the bank's website, Michael Saunders, head of securities lending, Americas, and Kevin Stahl, head of business development for market and financing services, securities services North America at BNP Paribas, described technology as the critical competitive element in the business. However, they also acknowledged that technology innovation is a difficult task to master and that a bank can rarely be sure that a technology at first look will be reliable, secure and fit for purpose.

When asked to what extent advances in technology tools and platforms are driving efficiencies and growth in securities finance markets across North America, Central America, South America and the Caribbean, Philip Morgan, COO and head of sales at Pirum Systems, observes that more than ever, market participants are looking to utilise technology solutions for all aspects of trade lifecycle automation.

"Along with meeting regulatory and capital requirements, this is driven by the need to create efficiencies and manage risk," he explains. "In the past, technology was viewed as purely a way to do things faster and with more efficiency as volumes increased. Whilst in some cases this remains the case, participants are now looking for technology to change more fundamental elements of their operating model."

In this scenario, improvements in human efficiency are mirrored by improvements in financial resource management, allowing firms to do more with less capital and balance sheet whilst increasing control.

Technology also assists in bringing real time data to decision makers and improving - and in some cases executing – decisions, whether that is suggesting the best execution venue, more efficient use of collateral, or identifying a failing trade that is creating a significant P&L impact.

Connectivity and interoperability

According to Martin Seagroatt, marketing director for securities finance and collateral management at Broadridge, technology solutions are driving efficiencies in a number of ways.

"Firstly, connectivity between electronic trading platforms, market infrastructure and firm level systems increases the potential for straight through processing across the trade lifecycle," he says. "Increasing electronification of trading also opens up opportunities for automation of parts of the trading process, particularly for high-volume, low-touch transactions. Greater automation and operational efficiency allow firms to scale their business and process higher transaction volumes, while minimising the costs of adapting to regulatory change."

As critical market infrastructure, exchanges must ensure that any new technologies can cope with the high volume and velocity of trading activities. There is also a need for a clear regulatory framework and common regulatory standards, along with system interoperability.

In an ever-changing ecosystem that is becoming more complex and fragmented, connectivity is more important than ever and the industry is looking for low-touch, easy-to-integrate solutions. However, changing behaviour continues to be an issue that industry needs to be cognisant of and future-proofing solutions should be a focus.

That is the view of Morgan, who says software as a service or SaaS-based platforms are becoming increasingly popular with clients as they are easier to integrate without the need to install, upgrade and maintain a software asset.

"Service providers that are agile and evolving will be able to support the constantly changing industry landscape," he suggests. "There is widespread appreciation of the benefits of adopting new technologies, so education is not necessary - what is challenging for firms is understanding how best to utilise and implement solutions to ensure the intended benefits are achieved."

Exploring emerging technologies

Some exchanges in the Americas have committed to using blockchain in their securities lending systems, while others are looking to deliver digital asset capabilities.

In April 2019, for example, the Jamaica Stock Exchange announced the execution of a master agreement with Canadian fintech Blockstation that will see it become one of the first stock exchanges in the world to enable live trading of digital assets and security tokens in a regulated and secured environment.

The master agreement was completed following a successful live trading pilot, which included participation from Jamaica Stock Exchange's broker-dealer members and the Jamaica Central Securities Depository (JCSD).

The agreement will provide international SMEs with a streamlined and simple process for raising capital in a compliant and transparent manner through security token offerings. The exchange also hopes it will demonstrate market leadership by showing the financial community that digital assets and cryptocurrencies can be traded safely through trusted broker members like any other security, in full compliance with regulations.

Other objectives include creating an inclusive, regulated market that is more accessible to institutions - as well as non-accredited investors who would otherwise be excluded from opportunities in the digital asset space – and streamlining the public disclosure process for SMEs, making it easier and more cost effective to list shares and other assets.

Elsewhere in the Americas, securities lending was the first service provided by Chile's Santiago Exchange to use blockchain technology, as part of a strategic partnership established by the exchange and IBM in May 2017 that will over time incorporate the technology into other operational processes. The blockchain application for securities lending launched in June 2018.

Morgan accepts that blockchain and other emerging technologies are grabbing the headlines at present and that for certain use cases there is a strong argument for exploring the use of these technologies.

"However, adoption and how these technologies are rolled out requires careful consideration, as does the common domain model that is to be used to define them," he adds. "Despite the promise of these technologies, their use within the financial industry needs to be viewed on a case-by-case basis and for the market to ask itself whether a revolution is necessary or would evolution suffice."

Blockchain has the potential to benefit the industry in the long run by speeding-up transaction times, improving transparency, streamlining business processes and reducing costs, says Seagroatt.

"There are possibilities to reduce trade fails and operational risk while increasing speed and accuracy, particularly around areas such as collateral mobilisation and substitution," he continues. "However, there are still many challenges and concerns that need to be ironed out before we will see widespread adoption and commercialisation of the technology."

Morgan: "Participants are now looking for technology to change more fundamental elements of their operating model."

Artificial intelligence is another emerging trend, one that is referenced by Saunders and Stahl who suggested that it has the potential to be impactful in areas from improving the scalability of resources to providing greater visibility and auditability of transactions.

Seagroatt agrees that artificial intelligence has a huge number of potential use cases, from applying intelligent automation to parts of the trade lifecycle through to predictive analytics and machine learning around areas such as trade pricing and collateral optimisation.

"However, financial services is a heavily regulated industry and regulators are paying increasing attention to the technology," he adds. "Auditability and 'explainability' around how a machine learning solution arrived at a particular conclusion are thus becoming more critical and this could hold back some potential use cases in future."

Enhancing efficiency

Over the last few years in particular, technology has enabled higher efficiencies at a time when existing service providers have not made any radical changes to their business models. There has also been a focus on making better use of tools that are already available, whether that is in the pre-trade space – such as auto-borrowing of securities – or in the general collateral space.

That is the view of Armeet Sandhu, chief executive officer at Stonewain, who refers to a similar trend post-trade where the focus is on increasing efficiency in the back office.

"The overall objective is to reduce the cost of the desks," he explains. "I understand companies have achieved very high levels of automation, especially in the equities space where the large primes and tech-savvy companies are moving to a model where their desks are focused on finding those hard-to-borrow securities."

Sandhu says there has been a realisation that investment is required in order to make the most of services such as NGT (EquiLend's trading platform) and this increased level of investment has enabled the end user to achieve more effective outcomes. There has also been increased focus on developing algorithms or processes that can enable users to create automation.

Earlier this year, Stonewain announced that it was partnering with EquiLend to offer securities finance market participants the ability to manage their book of business on a single, comprehensive and integrated platform.

"Blockchain has a role to play in enabling the rapid dissemination of information, which would be a major benefit to the end of day post-trade services cycle," says Sandhu. "There are some with more ambitious objectives for the technology which I am not completely convinced of as yet, but a ledger that has the same version of truth for all parties has obvious appeal."

The difficulty with implementing this type of technology lies in the standard network effect. Having two parties on the blockchain is of limited value - it requires wider participation, which is a challenge in terms of creating consensus across the industry.

"If we look at the experience of ALD (Agent Lender Disclosure), despite having a regulatory mandate it still took the industry a while to come together to build a solution," concludes Sandhu. ■

Roupie on sec finance, SFTR and the evolution of trading

Global Investor's **Andrew Neil** spoke with **Christophe Roupie,** Head of Europe and Asia for MarketAxess Europe and Trax, on the securities finance industry, SFTR and future growth areas for the business.

What does the securities finance market do well and where does it need to improve?

Lending, borrowing and pledging securities, cash or collateral has helped financial markets become more efficient, more liquid and operationally more secure. It does provide beneficial owners with additional revenues and liquidity providers with access to securities actively managed by investors or warehoused by custodians. The securities finance ecosystem has managed to transition successfully to better support more global, more automated and of course more regulated markets. Additional transparency regimes such as SFTR will continue to improve best practice and support market growth.

This leads me into some of the main themes for financial markets as a whole, and the securities financing industry in particular. Namely automation of the lifecycle, liquidity and data, all within a well-defined and diversified risk framework that leads to a better management of fails and therefore market efficiency. Technology will continue to transform and improve the pre- and post-trade lifecycle by adding new protocols, from matching trades to optimising the use of collateral and safe guarding of assets. Accessing and analysing securities financing data will also support the decision-making process which feeds trading algorithms globally. Alternative liquidity providers have been investing heavily in building new systems as the asset management industry is looking to also benefit from automation and technology. The shift in paradigm has long started, and the challenge for the securities finance industry, beyond fees and performance, is to keep pace with innovation and make markets even more efficient and more liquid.

In what ways (if any) do you expect SFTR reporting to impact trading and settlement processes and flows?

SFTR should help to facilitate greater transparency for the securities finance industry, which can be seen as a major positive for both market participants and regulators.

A potential fallout, though, of SFTR could be that a small number of beneficial owners could pull-out of the securities lending business - due to the regulatory risk of non-compliance and the need to share vast amounts of data.

The industry may also see certain client types re-evaluate their securities financing processes – for example, asset managers may look to bring such activities back in-house given the multiple service providers they use which in turn exposes them to multiple vendors.

There are a handful of SFTR reporting systems available to the market – what's unique about the Trax-EquiLend platform?

Unlike most, the solution with EquiLend is a complete front-to-back offering, supporting clients across trading, matching, reporting and monitoring.

Two of the main issues that have been identified by market participants ahead of the go-live date are the generation, sharing and management of unique transaction identifiers (UTIs) throughout the trade lifecycle, and the importance of early user acceptance testing (UAT).

To address the first issue, we created the Trax UTI portal. It serves as a centralised storage for UTIs, regardless of their source. UTIs can be generated at any point throughout our solution, including; at the point-of-trade via EquiLend's Next Generation Trading (NGT); during the matching process via either Trax Repo or EquiLend's Unified Comparison; via the UTI portal itself; and finally, via Trax Insight.

Regarding UAT, our test environment is now live (making it possibly the first to be so) and available for firms to begin testing with. This includes, eligibility, enrichment and validation of transaction data; preparation of reports; testing report outputs; and monitoring of report statuses. We are participating in the well-publicised industry testing made up of a consortium of major buy- and sell-side firms.

How can firms use SFTR reporting to their advantage?

SFTR reporting will allow some standardisation across the industry. It also means a lot more data will be available to participants. This is seen as a positive throughout, however the challenges of intellectual property being kept confidential may become a point of contention.

Although not mandated by the regulator, SFTR forces the issue of pre-matching, which can be a huge positive for the industry and should lead to better settlement rates.

SFTR reporting has also started the interoperability requirements, highlighting how transactions can be seamless between two firms. ■

Tick trade-offs and the optimal size

Tick sizes are a crucial element of a contract specification that exchanges must contend with. By **Louisa Chender**

The goal is to protect investors by imposing a minimum price change for quotes of bids and offers, ensuring that everyone is moving the price at the same increments.

Ultimately the tick size contributes to shaping overall market quality as well as the trading costs paid by end users.

Tick size reductions on exchanges across the globe have shown that smaller ticks can result in significant cost savings to the buy-side.

One recent example of this follows CME Group's decision to reduce the tick on 2-year note futures in January.

After halving the tick size, the Chicago-based exchange said it managed to reduce the cost to trade in ticks by as much as 36%.

The average top of book spread traded initially at the minimum tick for more than 94% of the trading day during regular trading hours (see image). As of June, this has gone up to 97%.

Trading volumes went up as expected and open interest soared as allowing people to enter the market at more granular price level brought about more opportunities to trade.

Yet despite some stand-out benefits for exchanges and end users, tick sizes on many benchmark futures products have been left unchanged for years.

Jigar Patel, global head of business development at electronic market maker XTX Markets, said: "Regularly reviewing tick sizes to ensure that they are balanced, i.e. neither too small nor too large, is one of the key roles of a venue. Unfortunately many benchmark futures have not been updated in decades and have lagged the widespread electronification of the market.

"This ends up costing the buy-side because extremely large tick sizes prevent spreads from naturally narrowing: many benchmark futures are 'tick-constrained' over 99% of the trading day," Patel said.

As with any change it is difficult to please all participants given their varying strategies and needs, so getting the balance right is a challenge.

CME Group February Rates Recap

Exhibit 1: ZT Tick Liquidity During RTH

	Avg Top of Book	% of Time at Minimum Tick
Jan 14-18	1,037	96.3%
Jan 22-25	1,020	91.1%
Jan 28-31	1,240	94.3%

The cost to trade in ticks was reduced by as much as 36%, based on analysis conducted using the CME Liquidity Tool (exhibit 2)

Exhibit 2: Cost to Trade in Ticks (32nds)

Size	Jan 7-11	Jan 14-Feb 1	Cost Change*
1,000 lots	0.259	0.167	-36%
5,000 lots	0.323	0.288	-11%

5,000 lots represents $1B notional, among the largest trades executed in the electronic central limit order book. Larger size trades may theoretically show higher cost of execution but are not commonly executed as a single aggressing order.

The right tick size

"There is a right tick size, which differs from product to product, depending on the liquidity in the product and the expected execution cost in this specific product," said Rick van Leeuwen, head of institutional trading at Amsterdam-based market maker IMC.

The more liquid the product is, the more likely it is that you can get a tight tick size because there will be more people that show something on the best bid and offer.

This will save money for the buy-side because the spread will be small.

"One note to this is that there are limitations to how small a tick size can be," he said.

For example, a smaller tick size increases the load for exchanges because there are significantly more incremental price updates.

Another risk is that if the tick is too small it will look like there is less liquidity available which can turn-off investors.

"I would say tick sizes should be determined on the liquidity of the product and exchanges should think about what kind of basis point it should be," van Leeuwen adds.

"They should also think about how the products relate to eachother – for example futures and options.

"If one product has a smaller tick than another it will impact the other. Similar products with the same underlying should have a similar tick in my opinion."

The liquidity test

In 2017, Eurex reduced the tick size on STOXX Europe 600 futures for calendar rolls, responding to the need to be a friendly environment for passive holders who incur costs as they roll their contracts over four times a year.

Zubin Ramdarshan, head of equity & index product design at Eurex, explains that the change was specific to the calendar roll to avoid a huge impact on trading behaviours that could have occurred with a change to the outright.

"Tick size is a sensitive topic but calendar is less so," he said.

However, because the outright order book and calendar order book are connected by synthetic matching, Eurex had to switch that off and separate them out.

"When you do that you hope to have the liquidity providers - which did step in. Members participated in the roll that were not there before," Ramdarshan said.

"We saw a drop in blocks and increase in order book trading, so the desired impact happened."

Acknowledging that changes invariably can be a cost to members, Ramdarshan said it's important to ensure the cost is outweighed by the benefits.

"The key point is does it improve liquidity and grow liquidity."

He said STOXX 600 was a test, and, looking at the data, it passed.

Eurex is now set to reduce the tick on Euro STOXX Banks and STOXX Europe 600 Banks from 0.1 to 0.02 in July.

Depending on its evaluation of the new changes next year, Eurex could be left questioning whether this something it will want to roll out to other products.

"If it improves liquidity and members are happy, I don't see why not," Ramdarshan says.

Savings vs earnings

Mark Phelps, group chief executive officer of clearing broker GH Financials, said alterations to tick sizes should be implemented to encourage price competition.

"There is a strong rationale for finer pricing in products that have met the minimum price but not for markets that trade with a two or three tick wide market, such as energies," he said.

For example in a close to zero interest rates environment, finer pricing in short sterling makes sense.

"I am not an advocate of reducing central order book tick sizes lower than they currently are in short term interest rates but you can see that in the wholesale market there is a demand for finer pricing."

The incentive for end clients and market makers is they get a better price, while exchanges would want finer pricing in their products so there are more price levels to trade.

But there is no correct answer to this as different market segments will have very different opinions.

"I think smaller ticks is probably where we will end up going. Markets are generally driven by what the end user wants and if the end user demand for finer pricing is there exchanges will need to put in what they want," Phelps explains.

However, there is a balance to be struck between cost savings for end users and P&L for proprietary price makers.

"There is no point in focusing on what the end users want at the cost of what the props can make in terms of liquidity, and that is what the exchanges will be trying to weigh up when they try to bring in finer pricing."

Price determines the tick

In 2009, Euronext, the European market, introduced a premium based tick size regime on its Amsterdam equity options market which allows the price at which participants want to trade determine the tick size.

Phelps: "Markets are generally driven by what the end user wants and if the end user demand for finer pricing is there exchanges will need to put in what they want."

Lynch: "Typically markets will determine the bid-ask spread for a contract over time and different trading conditions."

For orders entered with prices below the premium the tick size is €0.01 and above, the tick size is €0.05.

The threshold was initially set at €0.20, and increased to €0.50 one year later, meaning a higher value of the price could be entered with €0.01.

Euronext rolled the regime out to Brussels equity options in 2010 and then to its AEX-index in 2013, further increasing the premium to €5.00 for stock options on the latter.

"We had to come in at a certain level which is why we started looking at a low level in 2009.

"But then everyone saw the effect and agreed that we could increase the threshold because there are more trading opportunities in the lower tick size," Hein den Hertog, senior product manager at Euronext, said.

One of the main effects when initially introduced was that it reduced the best bid and offer spread.

"People were using the tick size to get a smaller spread and taking the opportunity to enter the market at €0.01, so we saw it as a positive effect," Hertog added.

Markets determine the price

Paul Lynch, chief executive officer of Swiss algo trading firm Itarle, points out that the bid-ask spread represents an element of two-way risk and one of the ways of pricing that risk is volatility.

"The short-term contract micro-structure is influenced by the tick size, queue lengths and volatility," he explained.

If it is trading at minimum tick but there are plenty of up and down ticks then it is probably a healthy micro structure.

"Where you have a case where the high and low of the day is just one bid and ask quote, the tick size is clearly too big and there will not be enough willingness to signal that you are a buyer or seller – then it certainly needs looking at," Lynch says.

"However, in conjunction with healthy volatility, the tick size is probably acceptable."

Another consideration is that even by looking at the same contract with different durations it seems the market determines the pricing.

Using fixed income derivatives as an example, on the short end the front months are trading at minimum ticks 95% of the time but further out it tends to converge at a minimum tick size quote only 20% of the time.

Ross: "If you have lots of granular ticks that could spread the liquidity up and down the pricing structure. "

"Typically markets will determine the bid-ask spread for a contract over time and different trading conditions," he said.

Lynch does not see there is a desire for an infinitesimally small ticks because that leads to lower volume on bid and ask.

"If it is too small it is just people competing on price with little size. Too wide, it is people competing on time because the price won't move throughout the day.

"The tick size has to be a representation of risk."

One size doesn't fit all

Andy Ross, chief executive officer at CurveGlobal, said the general challenge if you want liquidity is that there is a significant amount of risk available at a certain price point.

"If you have lots of granular ticks that could spread the liquidity up and down the pricing structure. There is an efficiency frontier and that is difficult to determine," he said.

CurveGlobal, the London Stock Exchange Group's interest rate derivatives venue, set out to challenge the status quo when it launched in September 2016.

One example of this is opting for half ticks (0.005) for both short sterling futures and Sonia futures.

But finer pricing was not the overall objective.

"It is not our job to tell people how to trade, but to allow people to trade in a way that both the buyer and seller can transfer risk in the most efficient way - one size does not necessarily have to fit all," Ross said.

Curve is instead set on coming up with alternatives and innovative opportunities for traders.

For example it introduced adaptive pricing on block trades, whereby fractional pricing is created using multiple blocks, offering greater choice on price granularity (see image).

Ross said there are areas where the futures market can learn from the over-the-counter and inter-dealer markets based around multi-broker RfQs (Request-for-Quotes).

"What we allow is the broker to ask the market and get prices in order to find the best bid and best offer. At the front end of the curve that tends to be between the bid and offer."

Therefore the price-taker is getting a price they are comfortable with and the price maker is getting all of their order filled.

This opened the door for people to execute trades that they wouldn't do elsewhere.

Curve's chief said it's not just about challenging the orthodox on things like tick, but how you can trade better. Essentially granular pricing is nothing new.

"This is almost like back to the future where you could have worked something on the floor down to a finer price," he said.

Ross reiterates that the markets will continue to evolve in search for more efficient ways to trade, and the tick size is just one of many moving parts. ■

Adaptive Pricing Source: CurveGlobal May 2019 Newsletter

Three Month Sterling		Block Threshhold 20 Lots						
Bid Dec-19	99.120	20	80	30	20	20	20	0
Ask Dec-19	99.125	0	20	20	20	30	80	20
Adaptive Price		99.120	99.121	99.122	99.1225	99.123	99.124	99.125

FRTB: finding opportunities to soften the burden

The final version of a text set to reshape banks' trading desks across the globe was published in January this year. After around seven years of discussion and changes, banks and policy makers were finally given direction on what the new market risk framework would look like.. By **Louisa Chender**

The framework is known as the Fundamental Review of the Trading Book (FRTB). The term 'fundamental review' refers in part to the sheer amount of important changes to the existing market risk framework, Basel 2.5, which was introduced in 2009 as an immediate means to address "what went wrong" in the lead up to the 2008 crisis.

Essentially the new framework requires banks to hold capital against instruments in their trading book, but it also significantly changes the way market risk is calculated and managed.

This brings about a second meaning of the term 'fundamental review', as banks could end up overhauling their entire trading infrastructure to tackle the changes more efficiently in order to keep regulatory capital down.

The framework was initially set to come into force in January 2019, but this has been pushed back by three years to give global regulators more time to lay out their rules and to give banks more time to implement them.

Although many consider the final rules to be a somewhat lighter version than stringent requirements originally proposed, several challenges remain. As with the post-crisis reforms that are already in force, banks will have to devote significant time and resources to getting this right. But with plenty of experience under their belts, how can they turn the burden of implementation around and to their favour?

Motivation to invest

"FRTB in principle is a good thing and the most beneficial requirement was probably the P&L attribution criteria, which is meant to align the P&L for the risk systems to the hypothetical P&L from the front desk," Eduardo Epperlein, global head of risk methodology at Nomura, said.

The new market risk framework provides two options for calculations. The first is the standard approach (SA), which is said to be easier to implement and which everyone has to do anyway.

The second is the internal models approach (IMA), which firms assumed would be cheaper from a regulatory capital perspective, but which is more difficult to implement. Banks will use the expected shortfall rather than VaR to ensure regulatory capital is adequate to cover market risk, and the model will need to be approved by the regulator.

One of the criteria for this is that banks have to pass back-testing at the bank-wide level as well as back-testing and a so-called profit and loss (P&L) attribution test at the trading desk level.

The P&L attribution test compares daily risk-theoretical profit and loss with the hypothetical profit and loss for each trading desk.

It then allocates trading desks into coloured zones depending on certain thresholds for risks to determine whether they are eligible to use the IMA.

According to Epperlein, passing this test is one of the most challenging as-

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> "It could have been a great thing but the reality is it is difficult to motivate firms to invest in the advanced approach when the SA model gives about the same benefits as well."

Eduardo Epperlein

pects of FRTB due to the depth of risk assessment required across the trading infrastructure.

"The P&L test is the most important aspect but also the most expensive because traditionally risk models do not have to be as accurate as the front office marking-to-market," Epperlein said.

"The big investment in doing this test will be competing with other projects and other trends to drive continuous improvement in risk management, while the regulation itself has a fall-back of the standard approach."

Banks are generally focusing on the standard approach first as it is used as a floor. Nevertheless it introduces different infrastructure requirements to those for existing rules, which means banks will have to invest in this regardless.

However Epperlein points out that there might not be a huge incentive to move forward with the IMA approach given that the benefits of any additional investment are still quite blurred.

"It could have been a great thing but the reality is it is difficult to motivate firms to invest in the advanced approach when the SA model gives about the same benefits as well. Even though we acknowledge that it is not as good as, SA is simple, and has ease of implementation," Epperlein said.

"IMA is truly only beneficial in terms of reducing risk-weighted assets (RWAs) if we get all the data aligned to pass the P&L attribution test with a sufficient number of trading desks, and the non-modellable risk factor (NMRF) is not that big."

Stern: "One of the big focus areas for FRTB and for regulators is aligning the front and middle office around a common data platform"

The data clean-up

The NMRF is another key consideration under the FRTB.

The framework requires banks to prove there are continuously available, real price observations for instruments in their trading book. Non-modellable risk factors result in higher capital charges, while granular risk factors could improve the result of the P&L attribution test.

The criteria for passing the risk factor modellability has been changed so that banks are required to identify 24 real price observations for each risk factor within a year, under certain conditions. Or, the bank could identify 100 real price observations over course of a year.

This has been somewhat relaxed from the original requirements.

However, gathering and assessing the vast amount of data required to prove real price observations, from what are currently fragmented sources, will be a huge task.

While some firms may want to use their own trade and firm price data, others may want to pool data with the market, and some could decide to do both.

Chris Nardo, director of data services at the DTCC, points out that derivatives data is not normalised like it is in equities or bond markets, and therefore banks still have to pool these assets across all the different desks.

"This is the opportunity to consolidate data into one place so that you then have the ability to normalise it," he said.

Upgrading beyond FRTB

Eugene Stern, head of market risk product at Bloomberg, explains that the significant data task presents an opportunity for providers to plug into workflows with banks where they haven't necessarily been asked to help before.

For example, while smaller institutions are keen to outsource the whole workflow for the standard approach, bigger banks want to keep some of the internal models approach in house and outsource the more challenging parts.

Another challenge is that in many cases, banks don't have the flexibility to run both the SA model and the IMA model on a common platform.

"Often, banks say they know what to do with SA, but are struggling with IMA. That tends to signify a lack of flexibility across the risk infrastructure and platform needed to run multiple risk measures on a common framework with common data," Stern said.

Vendors can come to the rescue with solutions like a common workflow for sensitivities, and an integrated workflow which pulls data for NMRF, which also flows through to risk calculations and IMA.

The benefits could in some cases span over to other regulations, providing additional benefits.

"One of the big focus areas for FRTB and for regulators is aligning the front and middle office around a common data platform.

"You can see this in the P&L attribution test for IMA, which is very much in line with other regulations such as

BCBS 239 (around data and analytics). So a system that passed the P&L attribution test would likely score well on the principles of BCBS 239," Stern said.

At the same time banks are seizing the opportunity to upgrade their whole risk infrastructure perhaps even beyond what FRTB requires.

"One interesting note is that in many cases, they are upgrading beyond the specific requirements of FRTB," Stern adds.

Every cloud has a silver lining

Alongside the data aspect, FRTB forces banks to rethink trading and risk management tools across the entire bank.

"Banks could use this as a spring-cleaning opportunity," DTCC's Nardo added.

At present some of the largest banks across the globe have fragmented and aging risk systems, but they could use FRTB as a trigger to explore ways to take advantage of newer technologies to build a more efficient infrastructure.

"Five-ten years ago, banks would have found complying with the FRTB requirements even more challenging because cloud and machine learning technology were less mature," he said.

"By having access to new technologies that are hosted in a cloud infrastructure you get more scale, and substantial computing power.

"Having the ability to share the economies of scale by using cloud providers is going to be key to meeting the FRTB compliance deadline," he adds.

In the early stages of implementation however there are still questions around exactly how this could improve the business structure for trading, and how it could reduce operational overhead.

"Numerous banks have not yet quantified those impacts. And while it might be too soon for banks to recognise them now, as we approach the compliance deadline, we will start to see more of those questions raised," Nardo said.

"I think banks still feel that FRTB is a burden but investing in the overall infrastructure will have a silver lining as a streamlined infrastructure and newly created operational efficiencies will be realised."

Delivering business value

An expert at a bank that did not wish to be named agreed that making such a huge investment would not be feasible unless it delivered huge business value as well as regulatory compliance.

The bank has decided to apply for the internal models approach with the expectation that the most value will come from investing in new technologies like big data and the cloud.

However, for FRTB, technology alone will not suffice. It requires a lot of analysis work and that requires more staff.

This again brings about opportunity to explore new technologies like "robotisation", which may further rationalise the costs for FRTB.

Another benefit is those new technologies, processes and tools could also be extended to other areas of stress testing and risk management like counterparty and credit risk.

However, the expert pointed out that "new technologies by definition are new" and it may take time to understand how they could fit the needs of the bank and work with the somewhat fragmented IT infrastructure.

Similarly, although the main foundations of things like big data are advanced, it is not yet clear what kind of intellectual evolution, with respect to robotisation, could be most beneficial.

Nevertheless banks have different strategies and priorities, and looking ahead at the cost benefits in the long run will help determine whether it is convenient to make the investment now.

"Just do it"?

"Everyone is going to take out what they put into it," Stephen Casner, chief executive officer Americas, KRM22, said.

"We expect to see a big disparity between those that get something positive from the implementation of the rules and those that just tick the boxes."

Casner: "We expect to see a big disparity between those that get something positive from the implementation of the rules and those that just tick the boxes."

FRTB comes after a string of post-crisis reforms in the capital markets like Dodd-Frank in the US, Emir and Mifid II in Europe to name a few – each of which requiring firms to develop a new set of systems and procedures in order to meet regulatory requirements.

"For over 25 years banks' approach to regulation resembled Nike's motto: 'Just do it'.

"What has happened now is that capital markets firms have ended up with a pile of disparate systems providing individual view of their risk and no correlation between them. What is even worse is that they all need to be managed individually, which makes it incredibly costly," Casner explains.

However, technology has evolved and is in better shape to handle a holistic view of risk – which is essentially what the regulation is gearing towards.

"FRTB asks that we explain how we gather hypothetical components to understand what actually happens. The core premise of making the hypothetical and the real come together is to string the data sets coherently and take a holistic view of risk," he explains.

"It is all about data. Take control of the data. If you don't control the data then you'll never figure it out." ■

Libor: preparing for the next phases

Libor is everywhere. That is becoming more even apparent now than ever as participants across wholesale, retail, cash and derivatives markets are tasked with working out how they will deal with the probability that it will cease to exist. By **Louisa Chender**

After Andrew Bailey's speech in 2017, which put a timestamp on the death of Libor, at least in its existing form, regulators opted for a somewhat industry led response to what a post-Libor world will look like.

Companies and contracts are of course different and there are a number of possible approaches - none of them a panacea as one expert pointed out. With so much choice in how to tackle the inevitable change, and different paces of progression, what should firms be doing to keep on top of it all.

In early July, experts gathered at a conference hosted by global law firm Linklaters in London to discuss the challenges, risks and opportunities that are prevalent across the industry.

The expectations

With Libor's so-called end-date only two-and-a-half years away, Edwin Schooling Latter, director of markets and wholesale policy at the Financial Conduct Authority (FCA), highlighted some of the things the regulator will be looking out for from now.

"We will be looking for confirmation that firms can do their business without a published Libor rate," he said.

For example, if new contracts are entered post-Libor the regulator will want to see clear confirmation of the way Libor can no longer be published on a representative basis.

In the meantime, conversations should be moving on from talking to clients about the challenges to telling them about the solutions.

"We don't expect people to gain or forfeit business," Latter added.

Ultimately the expectation is that where possible Libor exposures will be brought down and not increased, and that there fallback agreements will be put in place where possible.

Sandilands: "I think it is fundamental that people who do have that global exposure do participate in this consultation too. There is no point in sitting there thinking 'job done

The transition

Speaking on a panel discussing the commercial perspective, Shaun Kennedy, group treasurer at Associated British Ports – which became the first borrower to switch its debt from Libor to the UK's alternative rate Sterling Overnight Index Average (Sonia) - said the firm is proactively transitioning and not entering into new Libor instruments.

Starting with the swaps market is easier because there is a liquid Sonia swaps market, but the next steps will be looking at transitioning loans and private placements.

The key objective is to create a procedure that is easy to understand and transparent for all parties.

However a common view is that the emphasis is now on banks to think about what products they should be offering for different markets.

Speaking on the cash products panel Ilaria Filippi, legal counsel, EMEA at Japanese banking group Sumitomo Mitsui Banking Corporation (SMBC), said: "It is incumbent on us the banks to be proactive and reach out to customers and explain this is happening."

In this vein banks may soon start to realise they could lose out, and may not be as competitive, if they don't have a Sonia loan offering for example.

According to Doug Laurie, director, wholesale lending transformation and change at Barclays, infrastructure and the ability to support new products is fundamental.

"This helps stop new Libor contracts

and also helps the transition," he said.

Serge Gwynne, partner, corporate and institutional banking practice at consultancy Oliver Wyman, agreed that a priority has to be new products, as without new products you can't transition anything.

However one key concern is that even if banks create the products they can't force users, particularly those who generally like Libor, to adopt them.

So it becomes a question of what can be done to create that demand once the products are available.

What's next for derivatives?

Greg O'Donohue, director and senior legal counsel, derivatives, Ontario Teachers' Pension Plan, split the transition into three phases: work out when to start using the risk-free-rate; when to stop using the old rates; and when to transition legacy contracts from old to new.

Panellists exploring the way forward for derivatives agreed that if you are putting in place a framework to review Libor it would be effective to review all benchmarks. For example, Eonia also now has an end-date.

Tamsin Rolls, executive director and assistant general counsel, JP Morgan, said although the derivatives markets are way ahead there are some areas where clarity would be helpful, particularly around clearing and margin. In some cases this might result in changes to legislation.

For example, at present it is not very clear how the cleared and non-cleared collateral processes are aligned.

David Horner, head of risk at LCH SwapClear, explained that London-based clearing house LCH is working on tools to help with the transition, like compression, which can help build liquidity in the RFRs, and discounting in the US' Secured Overnight Financing Rate (Sofr) which will boost the rate by giving it another usage.

Moving on from clearing, panellists discussed the question of basis risk and to what extent it can be reduced.

O'Donohue said his firm has been lobbying for cash and derivatives to move at the same time with the same fallbacks, triggers and spreads – which would be the ideal scenario.

But nevertheless it will be difficult to avoid basis risk given that even if fallback triggers in the cash and derivatives markets were aligned, the fallbacks themselves are different. For example derivatives fallbacks do not refer to a forward looking term rate because it does not exist yet.

"There has always been basis risk. This is not new," Rick Sandilands, Isda senior counsel, Europe, said.

"The way to eradicate that basis is to work out what it is, identify it and make sure that you are amending your documentation terms and that might involve bespoke collateral renegotiation," he added.

Similarly the Credit Support Annex (CSAs) - the document that defines the terms for collateral by counterparties to derivatives transactions - is proving to be another challenge.

Rolls said: "We hope there will be industry documentation but with CSAs it tends to be difficult because people have their own standards and their own definitions."

Catching up

The UK alternative risk-free-rate ecosystem is developing at an encouraging pace. The swaps and futures markets have grown significantly under the

Gwynne: Agreed that a priority has to be new products, as without new products you can't transition anything

Schooling Latter: "We will be looking for confirmation that firms can do their business without a published Libor rate"

Filippi: "It is incumbent on us the banks to be proactive and reach out to customers and explain this is happening."

Randall: "Don't be a silo. Be plugged into a broader program within your company so people are not making changes blind to the accounting implications that may arise"

reformed methodology for Sonia and there has not been any Sterling Libor in the bond market so far this year.

But the story is not the same across the board, creating challenges for those with counterparties in a less developed region or those with contracts linked to cash products.

In particular there has been less progress in the loan market, in which the cost of borrowing is currently calculated using a forward looking approach, while RFRs are overnight rates.

However, the FCA's Latter reiterated that the term rate is not intended as the vehicle for loan market transition. It is not expected to be available by the end of the year, so participants must not wait for it, particularly given that loans may need to be renegotiated individually – which is a massive task.

Through discussions about the real value of a term rate, it has come about that the main reasons for using it are habitual and convenience rather than fundamental benefits.

Ed Chan, banking partner at Linklaters, said: "The way the loan markets are designed it is habitual – but habits do take time to break."

Similarly the US markets for Sofr has been progressing at a slower pace – although the Sterling market is much smaller (about $30 trillion compared to $100 trillion).

In developing its fallback language, Isda started with smaller markets - GBP Libor, CHF Libor, JPY Libor, Tibor, Euroyen Tibor and BBSW - and the consultation for US Libor, among others, was due to close at the time of writing in July.

Although it is expected that people will want consistency (i.e. compounded setting in arrears and historical mean/median approach), the derivatives market is global and there is the issue of regional diversification.

"I think it is fundamental that people who do have that global exposure do participate in this consultation too. There is no point in sitting there thinking 'job done'," Isda's Sandilands, said.

Operations, accounting and tax

According to SMBC's Filippi, many of the challenges are related to systems and operational challenges.

There is complexity in transitioning to a multiple rate world. Different rates are published at different times and systems can't cope with that, so it is important to start making the changes now.

Ultimately it is important not to rely on there being a fallback in place if the systems have not been upgraded to handle the changes.

Accounting and tax both pose additional challenges.

Mark Randall, director, PwC pointed out that many people are of a view that if all you are doing is changing from one rate to another that should not give rise to gains or losses.

However, in the accounting world it is more complicated because compensation costs and discounts many come about off the back of good relationships with a bank.

One of the challenges is that the hedge accounting relationship requires you to look into the future.

If you are hedging a fixed rate you have to look into the valuation of that fixed rate loan and say how much it is moving. As liquidity in Libor decreases there will be a question mark over how much you will be able to peer in.

Isda urged in June the IASB to push forward with plans for how it will address challenges under phase-two of the transition – i.e those that will arise from the actual migration.

In the meantime Randall said participants must strive to be aware of what is going on within their own firms.

"Don't be a silo. Be plugged into a broader program within your company so people are not making changes blind to the accounting implications that may arise," he said.

Looking beyond the risks

Speaking about risks, Barclays Investment Bank's legal director Vinay Reddy said the biggest one is value transfer.

"Libor and risk-free-rates are quite different. You are not going to get perfection when moving from one rate to another so just try to get stuff done," he said.

"We have had four years of notice as to what is coming. Be engaged with the regulators, customers, banks, so you understand what the risks are," Peter Bevan, financial regulation group partner at Linklaters, added

Bevan grouped the broader regulatory risks into three categories: ensuring firms protect consumers that are less able to assess risk; treating the customer fairly; and technical compliance with the EU Benchmarks Regulation.

"Overlying the three you have the Senior Managers and Certification Regime," he said.

The UK regime requires a senior manager to take responsible steps to prevent regulatory breaches, making them accountable for any wrongdoings under their watch.

This was the foundation of the Dear CEO issued by UK regulators at the end of last year and the FCA will continue engaging with those that are overseeing the complex transition.

"If you can demonstrate that you have taken all the adequate steps and put governance in place then you should be alright," Reddy said.

He added: "There is real opportunity from a commercial perspective to offer more risk-free-rate products. I hear more about obstacles rather than people talking about opportunities and that is something that I encourage firms to look at." ■

Navigating the next steps in ESG

Given the fast-growing global demand for environmental, social and governance (ESG) investing, it is easy to forget just how new the sector is. By **James Thursfield**

Leading the charge Nasdaq Nordic launched its ESG compliant index futures contract in October of last year.

Since then Deutsche Boerse-owned exchange Eurex also delved into ESG derivatives, launching three derivatives products in February, as well as ESG-X indices in May.

One thing that Nasdaq's index and all but one of Eurex's products have in common is that they rely on negative screening.

Negative screening applies a filter to remove companies involved in certain activities. This helps to standardise contracts and makes them easier for asset managers to understand and trade.

Nasdaq's ESG index future traded 91,000 contracts in May, rising to 108,500 in June (See chart one), according to the US exchange group.

Eurex saw a total of 24,750 contracts trade between its three screened contracts in May, jumping to 137,000 lots in June, according to the German exchange group.

However, there is a dilemma; whilst Nasdaq and Eurex are seeing liquidity in their ESG contracts grow, they are both aware that products which rely on negative screening are only the first steps in the ESG journey.

Willem Keogh, STOXX's head of ESG, thematic and factor solutions, says developing "super green indices" straight away does not always work because it is not always easy for the market to switch overnight to a benchmark that differs significantly from the current benchmark.

Pauline Engelberts, global chief operations officer at ABN AMRO clearing bank

Similarly, Alessandro Romani, head of derivatives products and vice president of Nasdaq Europe, says it becomes more difficult to provide a standardised product once asset managers start offering more complex ESG strategies.

Therefore, as datasets evolve in the coming years, exchanges will be expected to walk the tightrope in providing ESG indices that allow greater customisation whilst retaining the benefits associated with offering a standardised contract.

Next Steps

STOXX is already seeing demand for derivatives on its ESG-X indices referencing the US and Europe.

The index provider also plans to launch highly specialised ESG indices in future, but the timing remains uncertain.

Meanwhile Nasdaq said it plans to adopt a basket approach to ESG in September this year.

The basket approach would enable customers to design their own custom baskets based on a selection of global stocks before Nasdaq lists the forward on its exchange for trading and clearing.

"It is a product that combines the advantage of a standardised and centrally cleared derivative contract with the flexibility of designing your own baskets of stocks," Romani says.

Rather than relying on ESG demand, Romani said the basket approach was originally designed to be an alternative to over-the-counter (OTC) equity swaps.

Complementing, not replacing

Nasdaq's upcoming basket approach highlights that the success of ESG in the future might rely on its synergies with other markets.

Speaking at the Futures Industry Association's IDX conference in London in June on the sourcing of ESG compliant resources, Georgina Hallett, chief of staff at the London Metal Exchange, said the exchange has been wary of disenfranchising non-ESG compliant producers.

"We were clear from the very start that we didn't want to disenfranchise anyone," Hallett said.

She explained that the easy option for participants has been to move out of non-ESG compliant markets entirely and source from somewhere else.

"There are resources that are found in their (producer's) country, and they have the right to take advantage of that.

"It is up to us to find a way to allow the rest of the world to do that, while appropriately mitigating the associated risks," Hallett said.

Nature of the demand

Pauline Engelberts, global chief operations officer at ABN AMRO clearing bank said she sees a larger industry change where participant demand is falling broadly into three levels (varying between companies).

"The first one is if participants are just looking to grow their revenue and reduce their costs. The next level is stakeholder legitimacy, which is if you are involved in ESG because society and institutions expects you to. And the third level would be more intrinsically, for moral and ethical reasons," she said.

The nature of the demand for ESG products could also determine how they are designed.

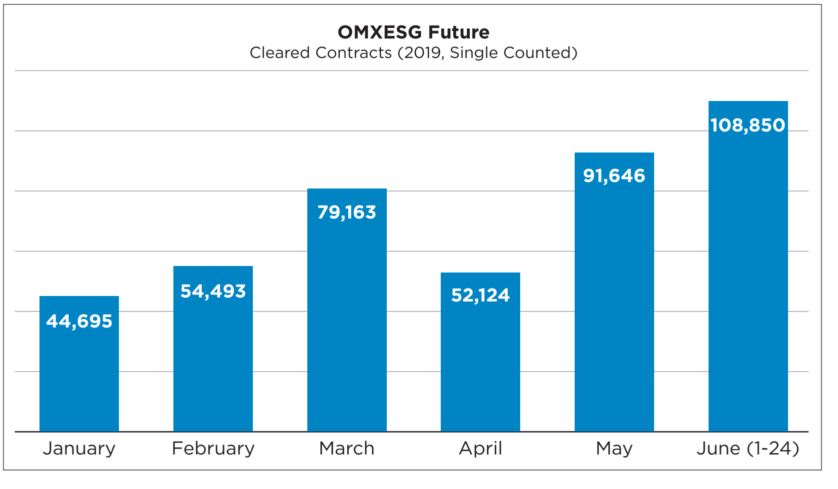
For example, ESG products with a greater sustainability focus might rely on demand that is more ethical in nature rather than economic necessity.

Nandini Sukumar, chief executive officer of the World Federation of Exchanges, says the introduction of new products will also depend on what constitutes a "sustainable investment".

"The introduction of widely-used, standardised ESG products will probably depend on greater standardisation of, and agreement around, what constitutes a sustainable investment (or an unsustainable one)," she says.

Meanwhile she says work on developing an EU taxonomy to determine whether an economic activity is environmentally sustainable "is a step in this direction". ■

> "It is a product that combines the advantage of a standardised and centrally cleared derivative contract with the flexibility of designing your own baskets of stocks"
>
> – Alessandro Romani



Nasdaq OMXESG Futures – Total monthly cleared volume for 2019
Source: Nasdaq

TT brings unique touch to Asia

Trading Technologies (TT) has been making headway in Asia for years, continuing to strike a balance between demand and opportunities, and overcoming technical differences.

By **Louisa Chender**

After announcing two key partnerships in the region in last three months, experts charged with business development in APAC spoke to FOW about how the Chicago-based fintech plans to successfully grow its footprint.

"In Asia it is all about the relationships. You have to establish the credibility and sustain it," Brian Mehta, chief marketing officer at TT, told FOW.

"In terms of strategy, this is a long game. We see the growth opportunities but it takes time and we are prepared to invest in it."

Mehta: "In terms of strategy, this is a long game. We see the growth opportunities but it takes time and we are prepared to invest in it."

Korean futures commission merchant (FCM) Samsung Futures became in May the first in the country to connect to the Korea Exchange via the TT platform.

As well as extending TT's connectivity to Korea for the first time, it demonstrated the power of partnerships to both participants and policy makers.

"Through the initial partnerships that we are building, others are going to see the benefits.

"For example, in Korea they are starting to take stock of feedback and they are starting to relax regulation," Michael Peters, regional executive sales director based in Sydney, said.

In the meantime TT's decision to sunset its flagship X_Trader and move to the 'TT Platform' enables it to be more flexible in terms of accommodating different requirements across jurisdictions.

TT platform is more easily adaptable to handle technical differences in the way the technology connects into the exchanges and rules around that connectivity, in China for example.

Hong Kong-based broker CN First became in June the first in the region to connect to TT, offering traders based outside of China access to the major Chinese derivatives markets via the new platform.

It is through distribution relationships in particular that TT foresees the biggest opportunities for its own growth, and for its clients to benefit from access to the much higher volumes on exchanges in the region.

"Distribution is quite powerful itself. The first phase is you build it, and then it becomes a standard approach for TT. It is following the model we have done in the past - hitting the people that want to use it first and then building it out," Peters said.

"We believe a key to success for TT, even exchanges, is distribution. It is working with these key partners that will allow us to expand our reach into Asia.

"It also opens more doors for further expansion, as regulation changes, we can support the local businesses trading into international markets, for example, with Thailand. But it takes time, there's no overnight solution," said Mark Pottle, TT's regional executive sales director based in Singapore.

TT is set to offer colocation in Thailand, building on its ever growing connections in Asia after going-live in Tokyo last year, and Hong Kong the year prior.

The fintech is also connected to ICE in Singapore as well as the Singapore Exchange, Bursa Malaysia, and Australian exchanges FEX and ASX.

"We are also adding something that's unique. For example, I believe TT will be the only international vendor that will offer colocation in Thailand for global clients," Pottle added.

Another opportunity for growth in the region lies in the digital assets space.

Having already connected to CME and BitMEX, TT took a stake in Hong Kong-based CoinFLEX, which spun-off from the London-based crypto firm Coinfloor earlier this year.

The partnership will benefit customers outside the US who are looking to diversity their crypto portfolios, giving institutional traders the ability to trade crypto futures on a familiar screen.

But TT is keen to expand its crypto capabilities both in Asia and beyond.

"We are targeting one or two crypto exchanges by the end of the year.

"There is demand in Asia and we will continue to see that and we will benefit from that, but we may consider branching out in terms of our coin offerings and geography," Mehta said.

"Again digital currency is a long game, but for us to be present now is important." ■

Eurex: completing the euro picture

Eurex has been relentless in rolling out products and initiatives over the past couple of years geared towards building an efficient and attractive marketplace and the focal point of its efforts has been one currency in particular, the euro. By **Louisa Chender**

"The highest efficiencies we can generate is if we look across products based within the same currency underlying," Matthias Graulich, member of the Eurex Clearing executive board, told FOW.

Eurex went launch at the start of 2019 a partnership program for its repo segment, mirroring an initiative for over-the-counter (OTC) interest rate derivatives, and has since seen volumes increase over 30%.

This was a key step in the broader plan to allow cross-product netting not only across listed and swaps but also repo and cash bonds.

"We are currently rolling out a pilot to allow balance sheet netting across the special, GC and GC Pooling repo businesses in conjunction with Clearstream," Graulich explained.

Clearstream has been pulled in because the transactions have to be settled on the same account to be eligible for netting.

Eurex is also looking to address a key challenge for firms by leveraging links between its growing repo and futures businesses.

The problem is that firms are faced with costly storage fees as they lock securities away to ensure they are available on the expiry date.

Eurex plans to introduce a solution in the second half of the year in the form of repo-baskets for selected European government bonds that deliver into the future (e.g. the Bund future).

"With this simple example you can see that the repo business and futures business are closely interlinked which underlines our proposition with an integrated euro cross-product approach to deliver efficiencies to our clients," Graulich said.

Graulich: "We have a sound basis to build on with our futures business at the long-end of the curve."

"Another important element to the story - to deliver maximum value to our clients - is linked to the benchmarks regulation," he explained.

Industry-wide efforts to transition to more robust risk-free-rates has led to new futures contracts on exchanges around globe, notably in the US and UK alternatives.

Europe has been slower to define its robust rates landscape but the European Central Bank will launch euro short-term rate €str as an alternative to Eonia in October.

"We have a sound basis to build on with our futures business at the long-end of the curve. We are making good progress on the swaps and our repo business, and the missing piece is the short-dated rates where we plan to launch €str derivatives likely towards the end of 2019," Graulich said.

"This is an area we are looking into and where we will want to launch futures likely towards the end of this year – and that will complete our euro fixed income vision to deliver the highest value to our clients."

The turning point in the euro story goes back to the beginning of last year when the Deutsche Boerse-owned exchange launched a partnership program for over-the-counter interest rate swaps. It has so far attracted 39 global participants.

Eurex set out to gain around 25% market share of euro swaps clearing business, from dominant London-based clearing house LCH at a time when Brexit cast a shadow over what the euro clearing environment would look like after the UK leaves the bloc.

Eighteen months into the initiative Eurex is now at 15% market share.

Most activity was initially in short-dated forward rate agreements – in which Eurex has increased its market share from 3.2% at the start of the program to 41% as of May this year.

"The next step is to continue to onboard buy side clients and get them active. We had 130 at the end of last year. This has grown to 230 now, and I believe we will be north of 300 by the end of the year," Graulich said.

He said this demonstrates the efficiencies of a complete euro picture for participants rather than opportunism ahead of Brexit.

"Brexit helped, because with Brexit firms needed an alternative liquidity pool in the EU27 and they took the opportunity to do what they wanted to do all along because they got funding and resources for it," Graulich said.

"But what makes me comfortable is that this is not a Brexit story, but that it has different elements around efficiency, risk diversification and competition, which are likely the driving forces going forward for clients." ■