WE WOULD LIKE TO CONGRATULATE OUR COLLEAGUES...

Angelia Chin-Sharpe, for being named the 14th Most Influential Woman in Islamic Finance by WOMANi, organised by Cambridge International Financial Advisory

Carrie Cheung, for winning the 'Trailblazer' category at the Women in Finance Asia Awards, organised by Global Trading Journal and Markets Media Group

Jane Ambachtsheer and Anne Marie Verstraeten, for being named in Financial News' 100 Most Influential Women in European Finance 2019

Nandita Bakhshi*, Michelle Di Gangi*, Claudine Gallagher** for appearing in American Banker's 2019 list of the Most Powerful Women in US Banking and Finance

* Bank of the West

** Claudine Gallagher is also the recipient of Markets Media's 2019 Crystal Ladder Award and Crain's Notable Women of Banking & Finance

BNP PARIBAS

The bank for a changing world

QUINTESSENCE

2020

QUINTESSENCE

2020

LEAN, CLEAN AND GREEN

Sustainability is part of our mandate, says AIIB CFO Thierry de Longuemar

FIONA MULLIGAN: The evolution of the hedge fund investor

KARIN HALLIDAY: Constructive engagement and the G in ESG

SIMON OLENKA: The COO embarks on a new journey

SMART THINKING IN FINANCE

BNP PARIBAS

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WELCOME

A new decade is an interesting and exciting time because it can start out one way and finish very differently. No matter what, it will have a sense of identity. What will the 2020s be known for? Gender equality? Combating climate change?

In this annual issue of *Quintessence*, we look at the things most on the minds of our clients as we enter the 2020s. Here are a few teasers to the magazine:

- The Asian Infrastructure Investment Bank (AIIB) has seen extraordinary growth in its first three years. We interview CFO Thierry de Longuemar to understand AIIB's strategy in raising financing and in supporting the energy transition.
- If ever a role were the linchpin in a complex environment, but out of the spotlight, it is the financial services Chief Operating Officer (COO). So much so that we have conducted a global survey looking at how COOs spend their time, where they want to be more effective and how they see the role evolving.
- The three pillars of responsible corporate behaviour – the E, the S and the G – have historically been put under one catch-all umbrella, but they are very different lenses through which to view the impact and workings of an investee company. Three writers give a view of the evolution of each pillar.
- The low yield environment isn't going away any time soon. As you know all too well, the side effects of unchartered territory are already being felt, not least increasing leverage and the shift of risk to so-called risk-free assets.
- On regulation, we look at two areas of investor protection soon to come into force – the fifth and sixth waves of initial margin for centrally cleared derivatives and securities financing transactions. How can firms best prepare for these next waves of regulation?
- In identifying investor trends, alternatives are in our spotlight, including ESG and private equity investing, and the impact of greater diversity on the hedge fund investor model.
- For technology, our theme is industry standardisation, whether it be the use of Application Programming Interfaces (APIs) by the securities services industry or providers supporting Asia Pacific stock exchanges as they innovate to use blockchain.

Finally, a big thank you to our external contributors – AIIB, KKR, Thales, AMP Capital, B3 Brasil Bolsa Balcão, Bolsa de Valores de Colombia, the Shanghai Stock Exchange and the London Stock Exchange.

We hope that *Quintessence* brings you valuable insights and will help inform your decisions in 2020. We look forward to lively debates on these topics. Feel free to discuss them with your relationship manager or get the conversation flowing via Twitter (@BNPP2S) or our LinkedIn company page.

JOSÉ PLACIDO,
HEAD OF CLIENT DEVELOPMENT, SECURITIES SERVICES AND HEAD OF FINANCIAL INSTITUTIONS COVERAGE, CORPORATE & INSTITUTIONAL BANKING

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AN INTERVIEW WITH AIIB

Asian Infrastructure Investment Bank CFO Thierry de Longuemar reflects on the Bank's extraordinary first three years, its ESG-driven funding strategy and how the institution could make investments in infrastructure more mainstream

In 2013, China embarked on an ambitious venture to bridge Asia's infrastructure funding gap, which the Asian Development Bank (ADB) estimates to be USD 26 trillion through to 2030, as outlined in its 2017 report, *Meeting Asia's infrastructure needs*. Keen to showcase its ability to create a new multilateral institution, China set out to invite other countries to join it in setting up the Asian Infrastructure Investment Bank (AIIB).

Operating on 'lean, clean and green' principles, AIIB would fund infrastructure projects in emerging markets – predominantly in Asia, but also in other regions, including Africa, Europe, the Middle East and Latin America – that had experienced highly challenging credit cycles in the past. As part of this strategy, it would develop infrastructure as an asset class aligned to Environmental, Social and corporate Governance (ESG) investing principles. At AIIB's official opening three years later, 57 countries had joined China. Today, it has 72 members and 28 prospective members.

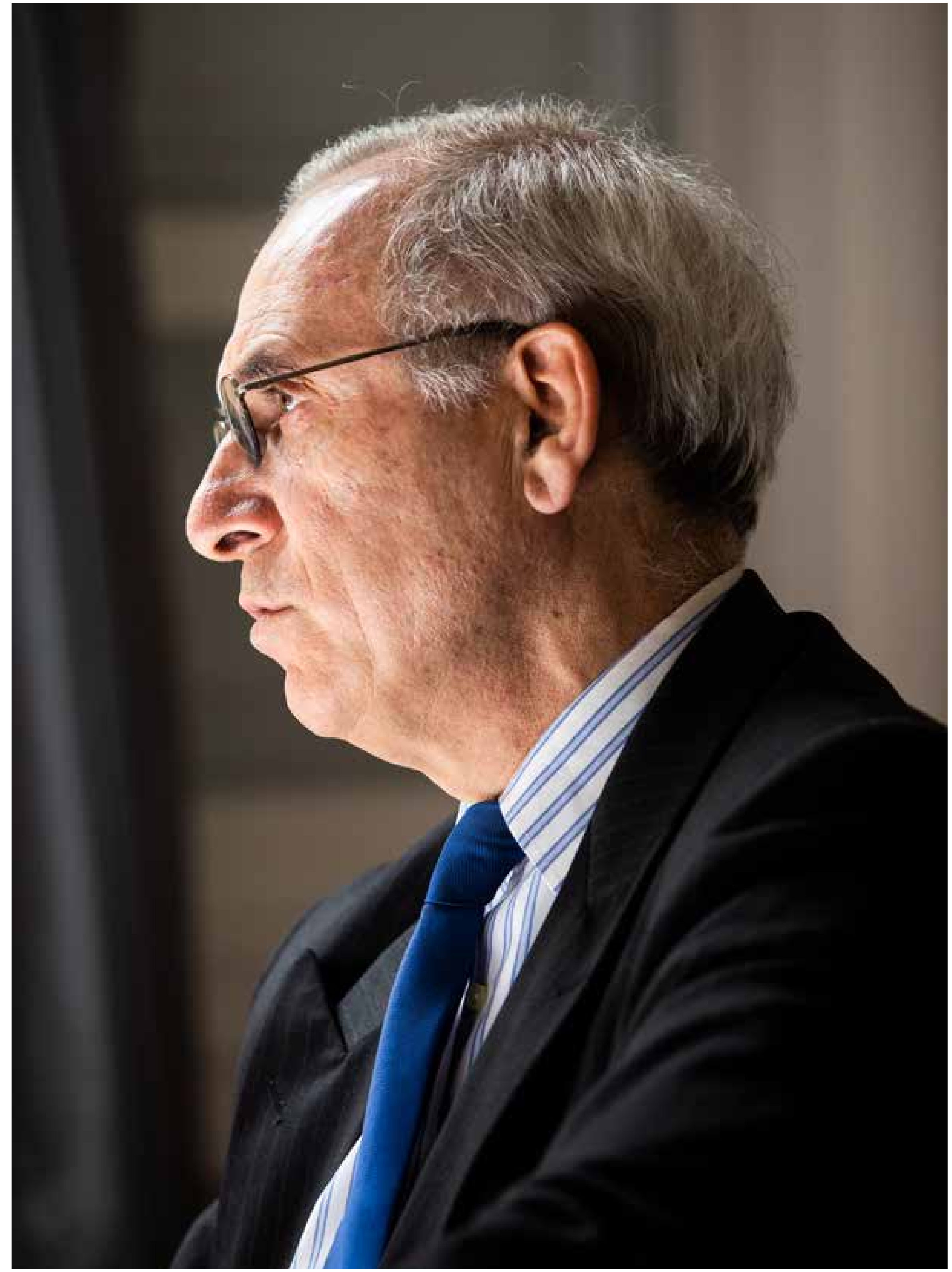
In 2017, the Beijing-based bank awarded BNP Paribas Securities Services a global custodian mandate.

Here, AIIB's Chief Financial Officer Thierry de Longuemar discusses the Bank's impressive progress, its focus on sustainable investing and its proposition to private investors.

Q: What have AIIB's major achievements been so far?
Setting up a new institution takes three to five years. We have almost completed this process now, which is a real achievement. The Bank approved its first loan six months after it had been established – that's remarkably fast. We had been called upon by the World Bank, ADB, the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD) to fill a USD 600 million financing gap for the Tanap [Trans Anatolian Natural Gas Pipeline] project. That pipeline connects a gas field in Azerbaijan with western Turkey, linking it to southern Europe. As a matter of comparison, the ADB financed its first project three years after having opened. We also received three AAA ratings from the world's major credit rating agencies a year and a half after our establishment. That was a first in the history of multilateral financing institutions. The EBRD was granted three AAA ratings three years after starting its operations.

Q: In May 2019, the Bank debuted a global five-year bond on the capital markets, unlocking USD 2.5 billion of capital. Why do you think it attracted so much interest from investors?
We started very early with a clear marketing strategy. We had met more than 200 investors from across the world during the two years leading up to the bond issue. This helped us achieve a successful transaction. Plus, it happens very rarely that a new AAA issuer enters the debt capital markets. The last major AAA issuer had been the EBRD in 1994. So, there was a lot of interest in our bond and we ended up not paying a 'new issue' premium. After announcing an indicative spread of eight basis points above swaps, we landed at six, which was exactly at par with an EIB five-year dollar bond launched a day earlier.

Q: Why did you choose that particular strategy?
We will have received about USD 20 billion of paid-in capital by the end of 2019. That makes us the best capitalised multilateral financing institution in the world. As a matter of comparison, the International Bank for Reconstruction and Development's paid-in capital – →



Ed Alcock

“Private sector mobilisation is one of the three major priorities that the Bank is pursuing. In the past, multilateral institutions failed to attract 'non-traditional' lenders in infrastructure”

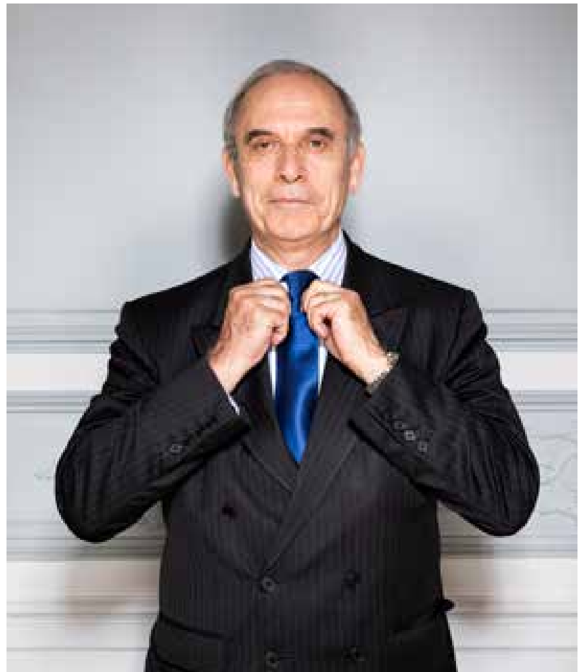
→ that is, direct contributions to its equity by member countries – stands at about USD 16.5 billion after 75 years. So, issuing the bond is a strategy. We plan to start borrowing to finance the Bank’s operations from 2024/2025. But you don't enter the bond market overnight – you need to establish your name in capital markets over years. You need to build your own yield curve, so the investor community understands where your price stands versus comparators to assess the liquidity of your bonds in the secondary market. This first transaction will be followed by other transactions as we intend to tap the global dollar market as well as other markets in the future.

Q: Can you share some examples of the projects that you have funded so far? You talked about the Tanap project, but are you also funding renewable energy projects?
The first projects we financed were primarily in the traditional energy and transport sectors. As mentioned, Tanap was a traditional energy project. We also financed a highway in Pakistan and our first private sector project was a gas turbine power plant in Yangon, Myanmar, co-financed with the International Finance Corporation (IFC).

In terms of renewable energy, we financed our first project in 2017. It’s a USD 210 million solar project in Egypt, not far from the famous Aswan Dam. This project is interesting because it’s a combination of 11 projects out of a total 50 projects, which are all based in the same part of the desert. The capacity of those 50 projects will be above one gigawatt, which makes it one of the largest ever solar projects in terms of electricity capacity. We have since also funded other solar projects and wind farms in Asia.

The first project that we funded in China was a USD 250 million loan to Beijing Gas. That’s also an interesting project because it will enable households surrounding Beijing to replace traditional coal-based cooking systems, which emit a lot of CO_2, with gas. So, funding Beijing Gas was part of AIIB’s strategy to tackle climate change, even though it is a traditional energy company.

That said, we do not just finance renewables. We also fund roads, ports, airports and urban infrastructure, such as wastewater management. The scope of our infrastructure financing is broad and must comply with fundamental environmental and social safeguard policies.



CURRICULUM VITAE

Thierry de Longuemar

Thierry de Longuemar has spent more than three decades working in the multilateral and private sectors. Prior to joining AIIB as CFO in 2016, he spent five years as Vice President of the Asian Development Bank. He has also served as Vice President Finance at the African Development Bank and as Global Head of Central Banks and Supra-nationals at ABN Amro. He holds an MBA from French business school ESSEC.

The evolving role of the CFO

Technology will have an increasing influence on the evolution of the CFO role, according to Longuemar. Finance chiefs will be leading departments that employ fewer people and make greater use of automation via data analytics tools, artificial intelligence, robotics and other technologies. He also expects technology to enable CFOs to allow their teams to work remotely while delivering the same high-quality results – something he believes will be a great motivator for employees.

Q: What systems does the Bank have in place to ensure that the projects it funds have a positive impact on local communities and the environment?
All projects comply with the Bank’s environmental and social framework that was approved by its Board in February 2016. That policy is public. We have in-house environmental and social specialists who do their due diligence to check, before approval, if the project does indeed fit with the Bank’s standards for environmental and social principles.

Q: What role is the AIIB playing in the wider push for energy transition?
A great role, but with some challenges. For example, a low-income country that needs energy will generally opt for the cheapest source. If the cheapest source is coal, what is our response? Should we just tell them that we can’t fund their energy projects because they are not clean? If we do, others might say we are not supporting the development of low-income countries. It’s a serious dilemma.

If you look at the energy strategy of the Bank, we will finance investments that are compatible with a country’s transition towards sustainable, low-carbon energy and internationally agreed targets. While fossil fuels will continue to play a significant role in the energy mix of most of our members, the Bank supports accelerating our members’ transition towards a low-carbon future, including lower-carbon emissions from fossil fuels. There are clean energy solutions but, in the context of a low-income country, they are sometimes not easy to implement.

Supporting the energy transition, in addition to mitigation activities, is part of AIIB’s strategy and we have already financed a number of projects. We often participate in major events organised to gather experts in this field and to push for an expansion of climate change related activities. For example, AIIB was represented at BNP Paribas’ famous Sustainable Future Forum in Singapore in 2018 and 2019.

Q: Traditionally, it has been difficult to incentivise private asset owners to invest in ESG-related projects. Do you think public support for energy transition and other such changes is making it easier to encourage the private sector to join this effort?
No, that hasn’t changed, but may in the future. Private sector mobilisation is one of the three major priorities that the Bank is pursuing. In the past, multilateral institutions failed to attract so-called ‘non-traditional’ lenders in the field of infrastructure. We aim to change that.

We wish to attract private investors. It’s too early to claim any victory as this is a long-term journey. We are speaking with pension funds, insurance companies, asset managers, sovereign wealth funds and others to try to convince them to team up with us to finance some infrastructure projects – a lot in the renewables space. It seems to gather significant attention, but future success will also depend on innovative solutions that we have started to promote.

Q: Why is the AIIB an attractive proposition for managers of private assets?
The value we bring to asset managers is that, through us, they find new ways to mitigate specific risks to infrastructure financing. Traditionally, there was a lack of interest in infrastructure, mainly because of financial risks – particularly for greenfield projects – during the building phase of infrastructure when no revenue is generated. There are also political risks. AIIB offers private sector lenders or investors the opportunity to get involved directly in the infrastructure asset class under a more attractive risk environment.

One effect of mitigating risk is that margins are lower. Nonetheless, infrastructure finance remains quite attractive, particularly in the current very low interest rate environment. We are also considering promoting other financial instruments, such as project bonds, risk-sharing products and guarantees. All of these solutions can increase the attractiveness of this asset class to the private sector.

Q: So, in fact, you are reducing the barriers to entry to this kind of investment, which very few asset managers have been able to enter.
Yes, we’re aiming to do that. I’m not saying we have done it. It needs to be proven. But it’s clearly an objective that we would like to achieve and the more private sector participants we are able to bring to the table, the better.

Less than half of S&P 500 and Fortune 500 financial services companies now have a Chief Operating Officer (COO).* As the industry continues to move at pace, will the COO continue to be the linchpin of the financial services firm, or is the role in danger of buckling under the immense demands of complexity? Here, we speak to Simon Olenka, Head of Client Delivery UK at BNP Paribas Securities Services, about the results of a BNP Paribas global survey of financial services COOs, commissioned in autumn 2019

THE FUTURE COO: TIME TO CHANGE?

Q: What do you think is the biggest challenge for COOs today?
I think the challenge is finding the balance between all the different demands that we now face. We're responsible for the traditional operational controls, managing the 'production line' and controlling budgets, as has been the case for decades. But now, the expectation is that the COO is an enabler of growth. She or he must generate change, and drive the organisation's response to change, whether that's arising from technology, competition or market dynamics. Of course, at the same time, the areas of regulatory compliance and governance also lie in our world – and those responsibilities are becoming more and more complex. So the job is demanding on about ten different axes – I am never bored!

Q: With so many responsibilities, do you think COOs suffer from an image problem? Is the title 'Chief Operating Officer' part of this problem?
There's a famous Indian parable where a group of blind men hear that an elephant has been brought to town, but have no idea what an elephant is. Each one touches the elephant and each one comes away with a different idea – one →

→touches the leg and thinks the elephant is like a tree trunk, one feels its tusks and thinks it is a spear, another touches its tail and thinks it is like a rope. The COO is a bit like this – the role can be so different based on the objectives and culture of the business. So the most important thing is that individuals in that role have clear responsibilities and accountability. The title should reflect what those are in their business.

One of the problems with the 'Chief Operating Officer' title is that it stems from the industrial age, when the COO was responsible for operating machinery or systems. It doesn't reflect the passion we need for what we do, or the human element.

In our global survey of COOs, we found that in many regions 'spending time with clients' will become the most important factor for COOs. I'm pleased that COOs across the market have this vision, because ultimately the role is about connecting external clients and internal staff. At BNP Paribas, we've combined our operational, IT, change and programme management teams under the umbrella function Client Delivery, at a global and regional level. My title sums up perfectly what we aim to do – to deliver above and beyond client requirements, including all of the internal investment and transformation necessary to make that happen. The added challenge is to do it in a commercially viable way.

Q: So what does the COO need to focus on in the future?
I think the COO role will focus on change management. The COO needs to enable real change by engaging and inspiring a wide audience of people to deliver on a number of common themes. Although business models and client requirements are changing significantly, at the end of the day, financial services firms provide people and technology, wrapped together by process. Very few things in our industry can be solved through technology alone. We can only derive real value by looking after our greatest asset, our people, by developing the right talent, coaching staff, and creating the environment in which people can harness technology and succeed.

In the survey, we found that COOs expect 'upskilling the workforce' to become the most important factor in future – above and beyond technology. In the UK, over the past 18 months, we have really focused on career development, through talent development programmes, career 'surgeries', and better definition and support of different types of career path. Traditionally, this might have been seen as something for HR departments, not the COO. But having the right people, with the right motivations and the right reporting mechanisms in place, is key to managing the business on a day-to-day basis. That frees you up to spend more time looking at the future, and delivering change.

Q: Do you think we will see a new type of COO?
I think the future COO will need an even more commercial mindset that doesn't just focus on short-term results and budgetary management (though these things will continue to be important), but also takes a long-term approach to growth. Growth can come in a number of forms. It can come from new business, but it can also come from capacity creation; the future COO needs to be at the forefront of both. At the same time, future COOs will need to become even better communicators. I think communication skills, and the authenticity with which we communicate, are key to building trust. Trust builds collective motivation around functions, tasks or programmes. It's an essential life skill, but it's especially important in a role where you're managing large, complex teams and systems distributed across many countries, and this complexity will only increase.

The future COO will have an even greater juggling act. They will need to have a commercial mindset while being focused on developing their people. They will need to be external-facing and attuned to clients' needs, while also being internal collaborators and motivators. Are we ready to make this change? I think this journey has already begun – and I'm excited to see where it takes us. Q

CURRICULUM VITAE

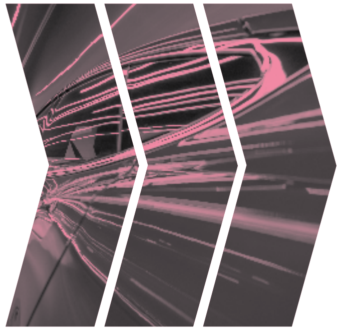
Simon Olenka

Simon Olenka is Head of Client Delivery UK at BNP Paribas Securities Services, where he is responsible for Operations, IT and Change Management across a range of UK services. Olenka has worked in the investor services industry for nearly 30 years and, prior to joining BNP Paribas in June 2018, spent over 20 years at RBC in a variety of roles, including Head of UK and Ireland Operations, Global Head of Change Management and UK Country Managing Director.

** Volatility Report 2018, Crist Kolder Associates*

E, S AND G

Environmental, Social and corporate Governance has become as familiar a trio as the Three Musketeers or Harry, Hermione and Ron. But each pillar has its own characteristics and importance for investors looking to better understand the risk embedded within their investments. Over the next three pages, we shine individual spotlights on E, S and G. BNP Paribas' Trevor Allen highlights three environmental initiatives to watch in Europe, BNP Paribas Securities Services' Florence Fontan explores the continuing challenges of assessing companies' social performance, and guest contributor Karin Halliday, of AMP Capital, shares lessons on how her company is helping asset owners to measure governance performance across their equity portfolios →



ENVIRONMENTAL: E TAKES CENTRE STAGE IN EUROPE

With a new European Commission in place since 1 December 2019, all eyes are on Brussels to see where the environment will land in its order of priorities. The signs are good, suggests Trevor Allen, Sustainability Research Analyst at BNP Paribas

Europe has not only put environmental stewardship front and centre in policy, the European Union (EU) is adding arrows to its quiver to support the movement to help align Europe to a 2°C scenario. There are three initiatives in particular to watch:

1. A new taxonomy

The EU taxonomy is a systematic look at analysing what should qualify as a green investment. It acts as a Rosetta Stone, translating specific business activities and their associated carbon limits into actionable investing objectives, specifically looking at climate mitigation, climate adaptation and the circular economy.

The taxonomy identifies specific sectors and the carbon limits that are permissible to qualify as an eligible green investment. For example, it identifies that investments in the energy sector should have emissions limits that are less than 100 CO_2 g/kw to qualify as a green eligible investment. For cars to qualify, emissions limits will need to be below 50 CO_2 g/km.

2. Curbing pollution

The EU is cutting down on pollution from fossil fuel vehicles. The cities listed have all agreed to ban petrol and diesel vehicles in their city centres, while promoting electric buses to fully replace their fossil fuel counterparts ahead of the bans. This initiative will have obvious impacts on business – i.e. car manufacturing; mobility; local, small-scale shipping and courier services – but setting goals in advance allows business to assess these goals and consider how they will scale up their fleets to comply with the bans.

In addition, the EU has a limit on emissions for car manufacturers. For example, the average emissions of all cars built by an individual EU car manufacturer must be less than 135 CO_2 g/km. This number will be reduced to 95 CO_2 g/km by 2021. This means that car manufacturers are currently re-investing, and will continue to re-invest, their profits to create lower-emission vehicles. Currently, the average passenger car manufactured in the EU produces 120.4 CO_2 g/km, so manufacturers have significant work to do to reach this goal. This regulation will apply only to new vehicles and not vehicles sold prior to 2021.

EU CITIES AIMING TO BAN PETROL AND DIESEL VEHICLES OVER THE NEXT 11 YEARS

ROME	2024	AMSTERDAM	2030
ATHENS	2025	BARCELONA	2030
MADRID	2025	BRUSSELS	2030
PARIS	2025		

Sources: C40 Cities, BNP Paribas

3. Reaching carbon neutrality

Ursula von der Leyen, President of the European Commission, is calling for an acceleration of decarbonisation, reducing carbon levels to 50% of 1990 levels by 2030, on the way to reaching carbon neutrality in the EU by 2050. Simply stating the ambition to reach carbon neutrality by 2050 would be meaningless without interim steps to ensure success. In order to prevent irreversible environmental degradation, she has proposed converting parts of the European Investment Bank (EIB) into a climate bank, where she has plans to unlock over EUR 1 trillion to fund business transition to carbon neutrality in the transport, real estate and energy sectors.

It is early days and the EU taxonomy still needs to be passed by the European Parliament, but with the European Commission supporting the legislation, and with recent seats gained by the Green and Socialist parties in the European Parliament, it is likely we will see traditionally conservative leaders moving towards the political centre, aligning policy to a 2°C scenario.

CURRICULUM VITAE

Trevor Allen

Trevor Allen joined BNP Paribas in 2008 and was appointed Sustainability Research Analyst in November 2018. He holds a BA in International Finance and an MBA in International Business from Arcadia University, Pennsylvania.

SOCIAL: THE HARDEST TO DEFINE AND INTEGRATE

Pressure from regulators and investors, and an imaginative use of technology, are pushing companies to improve their information on social performance, says Florence Fontan, Head of Company Engagement & General Secretary at BNP Paribas Securities Services

Social factors are proving the hardest to define and integrate. Indeed, according to BNP Paribas' *2019 Global ESG Survey*, 46% of institutional investors surveyed found the S the most difficult pillar to analyse and embed in their investment strategies.

Social metrics include a company's treatment of its employees, as well as its impact on wider society through its relationships with customers, suppliers and local communities. In this sense, it is not just about limiting potential damage, but also about creating social benefit. This can make it more challenging to assess than environmental factors, which focus on reducing harm, or governance, which tends to operate within existing legal or stewardship frameworks.

Major challenges

One major challenge is the huge range of metrics that can constitute a social issue, including labour relations, workforce diversity, procurement and supply chain practices. Even when a relevant social factor has been identified, it can be hard to measure its impact. For example, does education provide a social benefit if it is a private education for wealthier children?

And unlike environmental measurements, such as reducing carbon emissions, social indicators often lack a clear start and finish point. A company may be employing people in rural areas where work is scarce, but the question then becomes: is it employing both men and women? And is it paying them a low wage or a living wage? Is it providing fringe benefits? The questions are endless.

The qualitative nature of many social programmes makes it difficult to translate them into meaningful key performance indicators that can be used effectively by investors.

Compounding this problem is the lack of available data. Globally, approximately 40% of large and mid-cap companies report carbon emissions. However, under a third of large and mid-cap companies in the relevant sectors report the number of workplace fatalities.

A lack of standardised reporting also means data providers must use a combination of factors to make their own assumptions and assign weightings. As a result, there is little correlation between data provided by different vendors.

The social imperative

Regulators, exchanges and investors are successfully demanding that companies provide more and better data on social factors. Many initiatives are slowly making progress.

For example, the UK's Modern Slavery Act 2015 requires large and mid-sized companies to set out the steps taken to ensure that modern slavery is not taking place in their business or supply chains.

Another step forward is the Sustainable Stock Exchanges Initiative, a UN working group and forum for exchanges to improve ESG reporting by their member companies. Since 2015, when the initiative called on all exchanges to provide guidance on ESG reporting, the number of exchanges doing so has more than tripled to 43.

Technology also has a role to play. For example, some companies are partnering with local NGOs to use satellite imagery to check that suppliers are not supplying false data on the use of child labour.

Furthermore, custodians are well placed to gather, analyse and aggregate publicly available big data on the securities they hold on behalf of investors. And this is what investors are demanding. In BNP Paribas' ESG survey, 36% of respondents saw ESG data aggregation as the most important ESG service provided by a custodian, and 43% regarded analytics and risk monitoring as a key custodian service to support ESG investing.

Progress on supporting the S in ESG is welcome and, although information on social performance is far from perfect, institutional investors can challenge data vendors and companies to speed up progress. →

CURRICULUM VITAE

Florence Fontan

Florence Fontan is Head of Company Engagement & General Secretary at BNP Paribas Securities Services. She joined BNP Paribas in 2000. Fontan's prior roles include Head of of the Asset Owners Client Line and Head of Strategy, Change and CSR.

GOVERNANCE: TOUGH TO ASSESS FROM THE OUTSIDE

A constructive and investment-focused approach to company engagement has helped AMP Capital gain a clear picture of governance across its equity portfolio, says Karin Halliday, its Senior Manager, Corporate Governance

Governance is seen as a key factor in driving company value – not because well-governed companies will always outperform, but because poorly-governed companies are more likely to underperform. Time and time again we have seen evidence that the companies most likely to fail are those riddled with conflicts of interest, incompetent or disengaged directors, poor culture or poor risk oversight.

AMP Capital's interest in good governance started early. As one of Australia's largest fund managers, we naturally held a broad range of companies across our equity portfolios. Inevitably, not all those companies were well governed.

As we couldn't just sell every company that lacked an effective board or a reasonable pay or risk-management structure, we instead embarked upon a programme of constructive engagement.

It was many decades ago that we first committed to deeply understanding the governance structures of the companies we held and to engaging with those companies when questions or concerns arose.

As the issues are not always resolved in the first instance, we then choose whether to continue the dialogue, use our voting power to further influence change or, as a last resort, divest from the company. Ultimately, the course of action we take will always depend on our clients' mandate and what we consider to be in their best interests.

The governance mosaic

While financial losses can often flow from problems associated with poor accountability, fraud or misconduct, determining the quality of a company's governance from the outside is not easy. It takes work.

When you are dealing with intangible factors – integrity, cognitive diversity, accountability and trust – governance, or broader ESG research, becomes much like constructing a mosaic. Individually, the pieces may contain little value but the more of the right pieces you have, the more likely you are to be able to construct a true and clear picture.

Traditional governance data points include: a separate CEO and board chair; the percentage of female directors; director attendance records; the ratio of non-audit/audit fees; the level of voter support for pay; and a whistleblower policy. These data points are easy to collect. While they may be interesting, they only show part of the picture. Only with further information and insights can investors truly understand the level of independence and alignment with shareholder interests, the cognitive diversity and inclusion, director diligence, integrity of financial reporting, fair and effective pay structures, and employee protections.

The picture becomes clearer when each company's response to its environmental and social risks and opportunities is also considered. AMP Capital found that by virtue of our large shareholdings, and our constructive and investment-focused approach to company engagement, we were given unrivalled access to company boards.

Through meeting board members, investors learn what drives a company. The insights gained about material ESG risks and opportunities enable us to better assess a company's potential for generating sustainable returns over the long term.

A lot can be learned about a company's governance and priorities by also looking at its actions around pollution, safety and responsible sourcing. For a company's economic growth to be sustainable, its actions cannot have a negative impact on the social, environmental and community relationships in the areas in which it operates.

While some argue that it's easier to analyse G than it is E or S, I haven't found that to be the case. Not only is it difficult to judge a company's governance from the outside, but governance also impacts on everything a company does.

Well-governed companies get everything right – strategy, culture, management, succession planning, innovation, risk management. Ultimately, those companies understand how to leverage and protect their financial capital, as well as their environmental and social capital. Q

CURRICULUM VITAE

Karin Halliday

Karin Halliday became Senior Manager, Corporate Governance at AMP Capital in 2000. She spent the previous ten years in portfolio management. She says she has not tired of governance; if anything, she's more passionate about it than ever.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MEET JENIFFER KITHURE

How your voluntary carbon offsetting can help nurture local leaders

Jeniffer Kithure (pictured below) is a widowed mother of four. Her husband was attacked on his way home from work and died from his injuries. In 2005, having no formal income to her name, Kenya-based Kithure began working in a tree-planting programme.

The programme helps small groups of subsistence farmers to improve their local environment through afforestation – i.e. planting and maintaining trees on degraded and/or unused land. Carbon captured by the trees is quantified and verified. Certified carbon offsets are then sold in the global voluntary carbon market. Farmers receive annual carbon pre-payments for each tree, plus 70% of the net profit when the credits are sold.

Kithure has gained economic independence and flourished as a leader in her community. Today, she is part of the programme's Operational Leadership Council and mentors women who join the programme. Within Kenya, this programme has given 25,000 women the chance to earn their own income for the first time in their lives.

About ClimateSeed

ClimateSeed is one channel through which the afforestation project can promote its carbon credits. ClimateSeed is a social business owned by BNP Paribas. It offers a digital platform that connects sustainable projects with organisations wishing to voluntarily offset their carbon emissions. Programmes supported by ClimateSeed not only help avoid or capture CO_2 but also contribute towards the Sustainable Development Goals set by the United Nations.

To learn more about this and other projects, visit climateseed.com

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WHEN PRIVATE EQUITY MEETS ESG

Elizabeth Seeger, Director of Sustainable Investing at KKR, tells Alexandra Basirov, Global Head of Sustainable Finance, Financial Institutions Coverage at BNP Paribas, how the global investment firm is embracing ESG considerations

Private equity funds are increasingly aligning their portfolios with Environmental, Social and corporate Governance (ESG) considerations. They are recognising the material value brought by sustainable businesses and social enterprises. Consequently, we have seen in the market the launch of impact funds, along with ESG considerations being embedded in investment decisions.

KKR is a leading global investment firm that manages multiple alternative asset classes, including private equity, energy, infrastructure, real estate and credit, with strategic partners that manage hedge funds. Here, Elizabeth Seeger, Director of Sustainable Investing at KKR, discusses what the increased focus on ESG means for the firm at a practical level and what it is doing to help address some of the greatest challenges of our time.

Q: How long has KKR been focused on sustainable/responsible investing?
It's been over a decade since we formally began our responsible investment journey and developed a team and started building resources. We announced a partnership with the Environmental Defense Fund (EDF) – a US-based non-profit organisation focused on finding solutions to environmental problems – in 2008 and we have been building on the lessons learned ever since.

The 'Green Portfolio' partnership with EDF – now called the Green Solutions Platform – was set up to measure and improve the environmental performance of companies across our portfolio. As part of that, we committed to developing a set of analytics tools for companies to use to assess and track cost-effective improvements on a series of environmental metrics. In 2008, the partnership was the first of its kind between a private equity firm and an environmental organisation; we wanted to bring the rigorous approach of private equity management to the area of environmental performance.

Q: What does that mean in practice? How do you integrate ESG throughout your portfolio?
Honestly, it's always a bit of a moving target and we're always seeking to evolve and to do more. As it relates to our private equity strategies, in the past decade we have engaged with hundreds of companies across various geographies and asset classes on issues ranging from environmental impact and responsible sourcing to worker safety and employee wellness, among many others. We have expanded our due diligence practices and reporting processes, responded to countless investors and helped shape a smarter way forward for our firm and, hopefully, our industry. In general, we are committed to the thoughtful consideration of relevant ESG issues throughout the investment process in a way that is integrated and materiality-driven.

Q: In 2018, you launched an impact strategy. What drove this decision?
As I've mentioned, KKR has put in place strategies for thoughtfully managing ESG and stakeholder issues as a way to reduce risk and create sustainable value. We have also invested in companies where the core business model, product or service provides a solution to an ESG-related challenge and produces strong financial outcomes alongside positive impact. We have made more than 30 such investments totalling over USD 5.5 billion in KKR fund equity since 2010.

After seeing many investment opportunities around these themes in the lower middle private equity market – a corner of the market that we believe has been underserved – in 2018 we launched KKR Global Impact, which is an impact investing business focused on tackling problems across the globe where KKR operates. By creating a dedicated strategy, we are better positioned to identify great opportunities, particularly in the lower middle private equity market, and to help these sustainable businesses grow.

Q: What measurement does KKR use to evaluate the impact on its investments?
We're committed to measuring and reporting the impact of KKR Global Impact in a manner that is transparent and leverages established frameworks. For this strategy, we evaluate, measure and track each portfolio company's contributions to one or more of the United Nations Sustainable Development Goals using indicators defined by third-party reporting frameworks wherever possible. We work with the management teams of portfolio companies to design and implement the appropriate processes to gather the necessary data. In addition, as part of our effort to align with credible third parties, in 2019 we became founding signatories of the Operating Principles for Impact Management, developed by the International Finance Corporation, part of the World Bank Group. We intend to measure and communicate our progress towards aligning with these principles.

Q: What do you see as the main barriers to further integration of ESG?
Our work is always evolving to keep up with emerging trends and expectations. Even today, there's a lack of information for investors to make decisions, at least partly driven by companies and investors not knowing what is most important and how to get and interpret that data. This is one reason we have worked to integrate the market-driven standards of the Sustainability Accounting Standards Board in our processes. There's more work to do to get to the point where we have all of the information we all need.

Q: You can play an important role in helping to reduce carbon emissions. What are you doing in this area?
We measured our own emissions in 2019 and are working on strategies for how to manage that going forward. We have also worked for many years to support our portfolio companies' efforts to manage and reduce emissions and are currently working on evaluating additional strategies aligned to the Task Force on Climate-related Financial Disclosure. One of the things we've done to date is launch the KKR Eco-Innovation Award to encourage and reward KKR portfolio companies for innovative, environmentally beneficial projects or initiatives that create business value.

Q: Have you seen any noteworthy trends from your limited partners (LPs) in regard to this agenda?
We have learned a lot in partnership with our investors over the past ten years and appreciate their ongoing engagement and ideas, such as the ones we get via our partnership with BNP Paribas. I think that LPs have a unique perspective and ability to educate their investment managers on what practices they have seen that are effective. We are always open to learning about proven practices and partnering with others.

For more on KKR's ESG strategy, visit kkresg.com

CURRICULUM VITAE

Alexandra Basirov

Alexandra Basirov is the Global Head of Sustainable Finance for Financial Institutions Coverage at BNP Paribas. She has a BSc in Economics from the London School of Economics and Political Science. She has been recognised as a leading woman in finance, featuring numerous times in *Financial News*' FN100 Most Influential Women in European Finance. In 2009, she featured in *Management Today*'s 35 Women Under 35.

CURRICULUM VITAE

Elizabeth Seeger

Elizabeth Seeger joined KKR in 2009 to help oversee the consideration of ESG issues throughout KKR's investment process. She is also a member of KKR's Global Impact team and of the Sustainability Accounting Standards Board. Seeger has close to 20 years' experience working on corporate environmental and social issues.

INITIAL MARGIN: A PAUSE TO PREPARE

The decision to delay full implementation of margin requirements for non-centrally cleared derivatives has been welcomed by the industry. Not only does it avoid a last-minute rush to comply, it represents an opportunity for firms to rethink their approach to derivatives and collateral management

In July 2019, the Basel Committee and the International Organization of Securities Commissions (IOSCO) agreed to a one-year extension to the final implementation phase of the initial margin requirements for non-centrally cleared derivatives. These requirements are designed to reduce systemic risks related to over-the-counter (OTC) derivatives markets, as well as to provide firms with appropriate incentives for central clearing while managing the overall liquidity impact of the requirements.

Under this extension, covered entities with an aggregate average notional amount of non-centrally cleared derivatives that is greater than EUR 8 billion (phase six firms) become subject to the requirements from 1 September 2021. Meanwhile, the 1 September 2020 deadline remains for phase five firms, but with the threshold increased to EUR 50 billion.

David Beatrix, Head of Product for Collateral Access at BNP Paribas Securities Services, describes these delays as a sensible response to concerns that firms, especially buy-side ones, were not prepared for the impact of the new rules.

"At the root of this reform is a desire to move from a 'survivor pays' principle, to a 'defaulter pays' principle, to avoid firms using their own capital to absorb losses implied by a counterparty bankruptcy. Another effect is that this will also promote central clearing," he explains. "There is a realisation on the part of the Basel Committee and IOSCO that initial margin [IM] compliance is not just a copy-and-paste of the variation margin [VM] process; it is a new process with a steep learning curve."

The margin requirements for non-centrally cleared derivatives are broadly aligned across North America, Europe and Asia Pacific, although there are nuances with regard to exemptions. For example, equity options are out of the scope of margin requirements in the US rules, but were only exempted in the European Union up until 4 January 2020.

Who's affected?

Among the buy-side community, asset owner institutions (particularly insurance companies, pension schemes and sovereign wealth funds) are expected to be most affected by the changes because of the size of their derivatives positions and their consolidation under one single entity, says Beatrix. Asset managers will only be impacted if they have delegated mandates from asset owners or if they manage funds that use OTC derivatives above the EUR 8 billion threshold, which remains rare.

Furthermore, when asset owners delegate the management of their assets – usually across multiple managers – they also often delegate middle and back office functions. This can make it challenging to calculate initial margin due to the potential for fragmented calculations across multiple managers.

"We have already had discussions on this topic with clients who are tempted to replicate what they already do on variation margin – in other words, to leave their investment managers to manage the variation margin independently from each other," Beatrix adds. "This works well for variation margin because numbers are additive, but initial margin is a risk-based calculation and, as such, fragmenting the calculation process can involve higher IM amounts once cumulated across investment managers."

> **"The Basel Committee and IOSCO have realised that IM compliance is not just a copy-and-paste of the VM process; it is a new process with a steep learning curve"**
> DAVID BEATRIX, BNP PARIBAS SECURITIES SERVICES

Collateral optimisation

Another issue on which BNP Paribas Securities Services can guide clients is collateral optimisation. The market is concentrated around securities as collateral, but many phase five and phase six firms do not necessarily own large volumes of these assets so may have securities that are not considered eligible by a counterparty.

Jérôme Blais, Head of Business Development and Client Solutions, Triparty Collateral Management at BNP Paribas Securities Services, observes that, although cash is acceptable according to the regulations, counterparties prefer not to have cash left on the books of their custodian.

"We are working with firms to combine custodial and collateral management services with collateral transformation," he says. "This means that when clients require high-quality liquid assets, they can initiate an order to our trading desks to convert less liquid or less highly rated assets into high-quality assets to be posted to their counterparties." →

What is the difference between initial margin and variation margin?

Variation margin or VM covers current exposure and is calculated using the present value of derivatives (valued under the mark-to-market or mark-to-model principle), whereas initial margin covers potential losses for the expected time between the last exchange of VM and the liquidation of positions in case of the default of a counterparty and is a market risk-based calculation.

What is triparty collateral?

A triparty collateral agent specialises in providing collateral management services and manages the collateralisation of exposures resulting from principal transactions between counterparties. Such transactions include repo, securities lending and over-the-counter derivatives.

→ "In addition, we are helping those who find it challenging to fully implement initial margin rules by calculating initial margin amounts using industry standards and connecting to market utilities, which are key to margin and portfolio reconciliations," says Beatrix.

Testing ideas

Blais explains that firms are increasingly viewing his team as a resource where they can test ideas. "We have been spending an increasing amount of time this year supporting clients as they determine the most effective model for their business, whether that is triparty, using an outsourcer for collateral management or developing their own system in-house," he says.

"This is also why we made the strategic decision to invest in a triparty collateral service, which has created the fifth global offer on the market. This was a sensible move given that, in Europe, triparty now accounts for more than 95% of initial margin."

Critics' concerns

Inevitably, the new margin requirements have not been universally welcomed. "While the objectives are praiseworthy, we must also recognise that they don't address demands to raise the thresholds to avoid having so many counterparties becoming subject to margin requirements," says Blais.

There is also some concern around possible future treatment of cross-currency swaps. The Basel Committee and IOSCO have said they will evaluate the risks of not subjecting the fixed physically settled foreign exchange transactions associated with the exchange of principal of cross-currency swaps to the IM requirements.

Then there is the cost factor. The buy-side often seeks a directional position to hedge risk or take a specific view on some assets or groups of assets, which could imply some significant IM numbers.

"Our decision to invest in a triparty collateral service was a sensible move given that, in Europe, triparty now accounts for 95% of initial margin"

JÉRÔME BLAIS, BNP PARIBAS SECURITIES SERVICES

As a result, in many cases, posted collateral implies a net funding cost, which cannot be compensated with collateral received, as the latter is simply not reusable.

Industry standard

"Most of the industry has opted for the SIMM or standard initial margin model because it recognises risk offsets, which is an important factor for banks and for the industry as a whole.

It implies that if you have a market risk-neutral portfolio, the initial margin numbers are going to be lower, which will minimise funding costs," says Beatrix.

He also refers to firms taking the opportunity to review their roster of service providers. "They may have realised that they have a reason to take a strategic look at their service model and implement a more streamlined approach across the entire chain of services."

While phased implementation of the final stage of the new margin rule should reduce the incidence of rushed implementations, it is vital that buy-side firms continue to push ahead with their compliance planning. Reorienting derivatives activity is not achieved overnight – it requires months of careful planning.

CURRICULUM VITAE

Jérôme Blais & David Beatrix

Jérôme Blais (left) is Head of Business Development and Client Solutions, Triparty Collateral Management within the Investment and Collateral Services division of BNP Paribas Securities Services. He is responsible for business development, technical sales, client implementation and onboarding, and quality control for the triparty collateral management solution. Blais joined BNP Paribas Securities Services in September 2007.

David Beatrix is Head of Product for Collateral Access services at BNP Paribas Securities Services. In this role, he leads product development and contributes to the firm's global strategy for OTC products and bilateral collateral management. Beatrix joined BNP Paribas Securities Services in January 2009. He has 21 years' experience in financial services.

ONE SIZE FITS NO ONE: THE EVOLUTION OF THE HEDGE FUND INVESTOR

In this article from BNP Paribas Securities Services' Dear COO series, Fiona Mulligan, Global Hedge Fund Product and Solutions Manager, looks at the evolution of the hedge fund investor and how managers are adapting to meet their shifting requirements to attract and maintain capital

Dear COO,

Our industry is at an inflection point.

Having worked on the investor services side of the hedge fund industry for almost 20 years – including for a USD 20 billion-plus London hedge fund and in my current position leading Investor Services Product for BNP Paribas Hedge Fund Services globally – I've seen the sector evolve considerably since the turn of the century. Unsurprisingly, spurred on by rapid digital innovation, the pace of this evolution is quickening. Hedge funds now face an increasingly challenging environment for raising assets, with evolving market dynamics and increasing regulatory requirements giving the COO much to ponder.

However, we are also seeing a marked shift in the expectations of the modern →

→ investor. As fund managers' end clients become increasingly demanding around fees, liquidity and transparency, the ability to meet their evolving needs is vital to attracting and maintaining capital. As a result, there has been a divergence from traditional 'off the shelf' strategies towards more bespoke structures, prompting fund managers to not only re-evaluate their offering, but also their core infrastructure and ability to facilitate such customised portfolios.

The rise of alternative alternatives

One of the ways hedge funds have responded to the growing demand for tailored products is through separately managed account, family office, co-investment and more liquid alternatives structures. Managed accounts and co-investments in particular are proving to be very effective at attracting new inflows, with investors favouring the greater level of control, transparency and fee/liquidity flexibility they offer.

Similarly, the market for liquid alternatives such as UCITS, ICAVs and '40 Act funds has also been gaining momentum, as they provide an option for investors who often have limitations to investing in illiquid alternative assets or who prefer the cost, risk or oversight benefits offered by the wrappers. Moreover, this heightened accessibility is presenting new opportunities to tap an increasingly savvy retail investor space. As global social and demographic dynamics shift, giving rise to a burgeoning pocket of wealthy investors in emerging economies – particularly in Asia, a region whose appetite for alternative assets is on the up – the tailor-made trend is showing little sign of abating in the near future and hedge funds are predicted to continue to diversify their products in a bid to raise and retain assets.

"Hedge funds now face an increasingly challenging environment for raising assets, with evolving market dynamics and increasing regulatory requirements giving the COO much to ponder"

But there's a catch

While such flexibility positions a manager favourably in the eyes of the allocator, there is no doubt that offering a diversified product range brings with it added operational burdens and costs that will hit the COO's desk. Existing processes, IT infrastructure and/or legacy systems often require investment to support the new products while at the same time meeting investor servicing expectations. These infrastructure and distribution challenges are increasing the dialogue with service providers and positioning those with a global front-to-back, traditional UCITS – as well as other core alternative services – expertise to the fore, allowing COOs to address their full range of challenges under a single relationship. Compounding the issue is the greater scrutiny being placed on a fund manager's fee structure, which also adds a layer of operational complexity. Following the publication of the Albourne Partners' white paper in December 2016 – *Case Study: The Texas Teachers' "1-or-30" Fee Structure* – we are seeing this methodology gaining the attention of both managers and investors. The structure guarantees that the investor will pay the hedge fund a 1% management fee, regardless of performance, but will never pay more than 30% of the alpha provided annually by the fund.

If you are considering diversifying your product offering or adapting your fee structure, working alongside your fund administrator to map out the best course of action is a worthwhile exercise. By leveraging their specific expertise and scalable infrastructure, you can take an end-to-end view of your operations to optimise processes and minimise fixed costs. To the extent that they are equipped to service the full spectrum of asset classes, they will also be able to assist in creating the end-to-end product lifecycle and manage the entire corporate action process to ensure a smooth transition for both you and your investors.

"A streamlined user experience and data accessibility will be a source of competitive advantage for fund managers who are committed to the digital transformation of their infrastructure. Doing so helps cultivate a reputation for putting clients first"

Putting the 'service' in investor services

Lastly, it's also important to consider the bespoke investor requirements when it comes to service delivery. One size does not fit all. Today's fund manager must be attuned to the differing preferences of its institutional and high net worth individual (HNWI) investors and, indeed, its distributors. Today's HNWI allocator is increasingly sophisticated and expects a very different relationship with the manager and their service provider. They want online access to their data and reporting made available through familiar digital channels like mobile apps. On the other hand, a growing proportion of institutional investors and distributors are seeking big data integration via application programming interfaces (APIs) and file sharing from the manager and service providers, which can feed into their underlying technology solutions. Automation and straight-through processing (STP) are at the forefront of their operating model and fund managers with the flexibility and innovation to respond to this will be poised to reap the rewards.

As this dynamic continues to evolve – and looking ahead to the impending shift in the demographic profile of the end investor – a streamlined user experience and data accessibility will be a source of competitive advantage for fund managers who are committed to the digital transformation of their infrastructure. Doing so not only yields efficiency gains, but also helps cultivate a reputation for putting clients first.

A final word

In addition to improved efficiency and scalability, adaptability is increasingly core to a service provider's proposition to a fund manager. Faced with ongoing change at the market and investor level, the ability to adapt the product offering and underlying infrastructure is becoming crucial for today's COO. To ensure successful fundraising in the years ahead, a fund manager will need to be able to keep up with its allocators' demands, while still dedicating adequate resources to alpha-seeking activities.

With best wishes for your future success,

Fiona

CURRICULUM VITAE

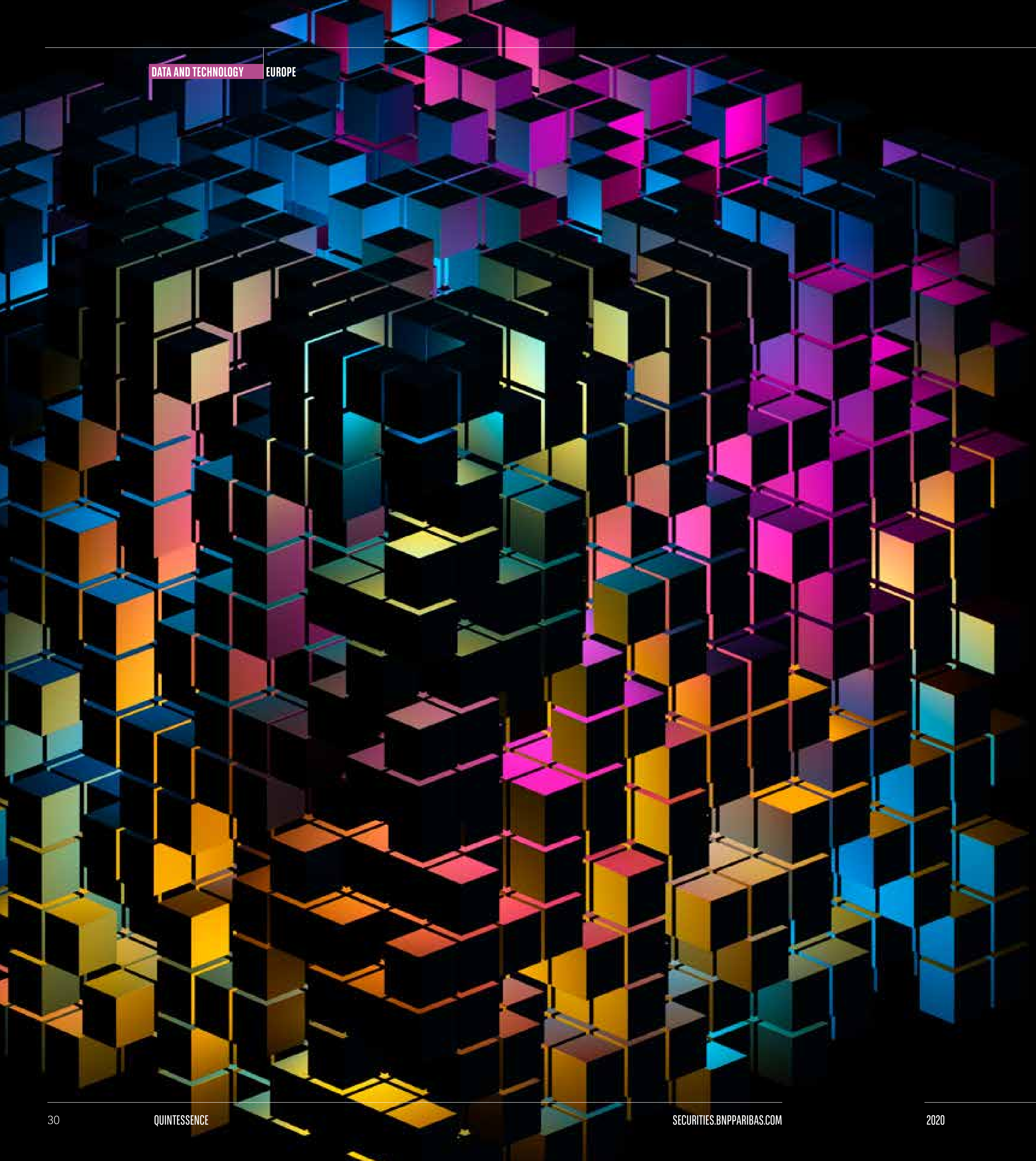
Fiona Mulligan

Fiona Mulligan joined BNP Paribas Securities Services in 2014 as Head of Investor Services for EMEA Hedge Fund Services. She is currently the company's Global Hedge Fund Product and Solutions Manager. Prior to joining BNP Paribas Securities Services, she worked for GLG Partners (now a member of Man Group) and HSBC. Mulligan holds an honours degree in International Business from Ulster University and a Professional Certificate in Investment Management from Dublin City University.

About the Dear COO series

The role of the hedge fund COO is evolving. Traditionally tasked with ensuring the smooth day-to-day running of the fund, they are now wearing multiple hats and are involved in almost every area of the business. As fund managers adapt to meet the pressures of increased competition, as well as mounting investor and regulatory requirements, maximising operational efficiency has never been so crucial to gaining a competitive edge. However, this can be a challenging task when managing multiple third-party relationships and data flows.

As a trusted long-term partner to hedge funds, we want to support COOs in navigating today's shifting landscape. In our Dear COO series, we distil over 45 years of operating history and global expertise into actionable insights for the modern hedge fund's handy man/woman.



CYBERSECURITY IN THE QUANTUM ERA:

WE MUST PREPARE FOR THE FUTURE

Cryptography is omnipresent in our daily lives, securing our mobile & network communications and protecting transactions. Advances in quantum computing could threaten the security of at least some of this data in the next few years so companies – and countries – need to be prepared for change. Here, Aline Gouget, a cryptography adviser at Thales, speaks to Quintessence about post-quantum cybersecurity

Q: First, could you tell us about your job?
I'm in charge of advanced cryptography in the Digital Identity and Security business at Thales. I act as a bridge between research and industry for advanced mechanisms that could be used in the future in, for example, data protection. I look at the constraints associated with these mechanisms and how they could be integrated into real life.

My priority is to understand advances in cryptographic attacks and what impact they might have on products and solutions, both now and in the future. We need to understand how safe the cryptographic algorithms we use are, and for how long they will remain safe. Even data that already exists may require protecting for longer than the product in which it is contained remains secure. So we need to be prepared, to be able to change cryptographic mechanisms and become 'crypto-agile'.

I also work on new cryptographic mechanisms like homomorphic encryption, which →

→allows calculations to be made on encrypted texts known as ciphertexts, looking at how these mechanisms can be used industrially.

Q: What are the advantages of quantum over traditional calculation?
Quantum computing can speed up calculation in certain cases, using what we call the superposition of states: the bits that make up a quantum computer, qubits, unlike their classical computing equivalents, can exist in two states at the same time.

Until recently, quantum computing was an idea, a dream. Now we have passed that stage and the problems that remain are in the realm of engineering. There is still some way to go. While several thousand qubits would be needed to endanger encryption, for the moment the biggest existing machine is a 72-qubit machine built by Google in 2018.

Q: So when do you think quantum computing might become a threat?
I'm a cryptography specialist rather than a quantum specialist and I don't like to make predictions. Also, after discussing this with specialists, there doesn't seem to be a consensus. This is at least partly because there are different ways of constructing qubits. It also depends on how much is invested in research in this area. However, fewer and fewer people seem to think we will ever have a 'universal' quantum computer – which we don't necessarily need, anyway. What might be more useful is quantic accelerators for computing.

From what I understand, any changes will come little by little and nobody is predicting there will be a 'big bang' immediately. I think we might need to migrate our systems within ten years: this is when the US National Institute of Standards and Technology (NIST) has said that the risk of quantum attacks could become real. Crypto resilience and robustness are therefore vital.

Speaking of NIST, in 2016 it issued a call for proposals for standardised cryptographic algorithms that would be secure against both quantum and classical computers.

Q: Are you involved with this?
Thales is working on a post-quantum signature algorithm named FALCON, which is based on mathematical objects called lattices. FALCON has been selected for the second round of the NIST post-quantum process for standardisation. In the 'signature' category, only nine candidates are being studied in this second round whereas there were 19 in the first one. I was not personally involved in this initiative and my goal is rather to understand what impact the proposals that have been made might have. As part of this role, I carried out some analysis as is standard industry practice: we can contribute to projects by providing feedback on the suggested solutions.

A separate NIST project, as part of its post-quantum cryptography development effort, concerns stateful hash-based signatures (HBS). These signatures involve constructions of cryptographic 'primitives', building blocks, based on the security of hash functions, which take data of arbitrary size and produce a fixed-size 'digest' as output. 'Stateful' means the state of interaction is tracked.

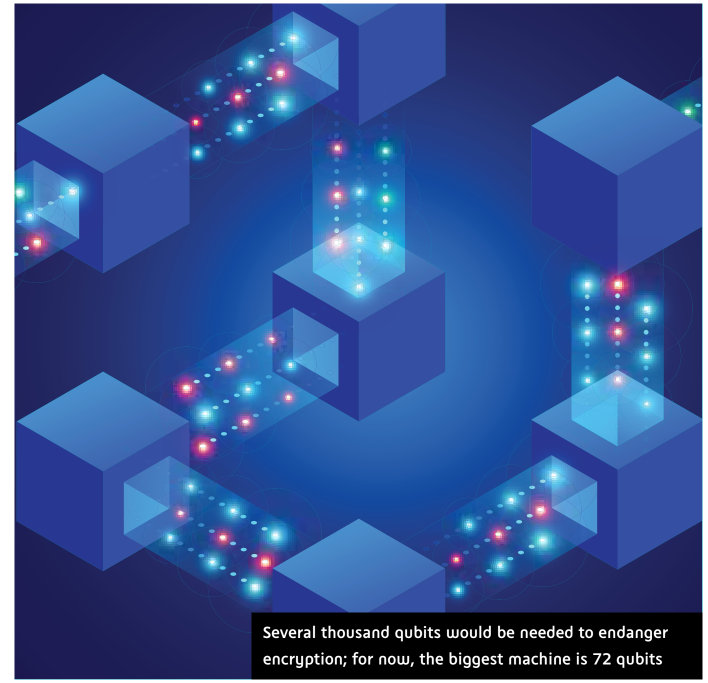
There is already consensus on the security of these signatures, so the standardisation process can already be started and the project is more short term. Thales is participating directly, and has provided comments on the limitations of specific HBS schemes.

"Until recently, quantum computing was an idea, a dream. Now we have passed that stage and the problems that remain are in the realm of engineering"

Q: It might seem strange to be sharing information with a national organisation from another country in such a sensitive area...
NIST has global reach, enabling it to attract the attention of researchers worldwide. This is necessary in order to encourage as many vulnerability tests – attacks – as possible on encryption. The more attacks a primitive has resisted, the more likely it is to be secure. So trust and cooperation are necessary and in everyone's interest.

Cryptographic systems are constructed using difficult mathematical problems. For example, RSA, one of the first systems to come into use, relies on the fact that, although multiplying two numbers together is easy, moving in the other direction and finding their factors is extremely difficult. Various teams have tried to crack this problem and have published their results, which has helped other parties in their appreciation of the security of the algorithm.

The NIST call for post-quantum projects is different, as it concerns new cryptography, which has received less attention and has been less tested. More attacks are needed to show how secure the proposed algorithms are.


Several thousand qubits would be needed to endanger encryption; for now, the biggest machine is 72 qubits

The attacks on these algorithms are purely theoretical, as the solutions against which they are tested have not yet been deployed. The idea is to use them to gain confidence in the choice of the primitives used. So there is no industrial impact and the results are discussed in forums and at conferences.

Q: Does everyone have the same requirements regarding cryptographic security?
Government agencies make recommendations on security – for example, on the size of the 'key' that is used to decode data – especially when a company wants to certify a product. Different companies can also set out different recommendations; for example, companies like Visa and MasterCard use a standard known as EMV. Companies also keep an eye on new developments in others' recommendations, which helps them see what might need updating.

The Senior Officials Group Information Systems Security (SOG-IS) makes security recommendations in Europe, which must be in line with recommendations from national agencies like France's ANSSI or Germany's BSI.

Q: What about positive uses of quantum technology?
There are projects looking into other quantum-related areas that are not included in NIST's scope; for example, quantum key distribution. This technique, which provides a way to distribute and share secret keys that are necessary for cryptographic protocols, is not new – it has been commercially available for several years – but is increasingly being talked about today. Quantum sensors – quantum devices that respond to stimulus – is another.

The EU Quantum Flagship is a vast project that is complementary to the work done by NIST and looks into the different uses of quantum technologies – unlike NIST, which is looking into what we need to do, assuming a quantum computer becomes available. ◼


CURRICULUM VITAE

Aline Gouget

Aline Gouget is a Cryptography Adviser at Thales, a French aerospace, defence, transport and security firm. She focuses on topics such as white box cryptography, applications of blockchain, homomorphic encryption and quantum cryptography.

After pursuing a pure mathematics degree, Gouget became interested in cryptography, which was the subject of her PhD. She started as a cryptography researcher at France Télécom in 2004, before joining Gemalto in 2006. In 2017, she was awarded the Irène Joliot-Curie Prize, which is judged by the French Academies of Science and Technology and honours women for achievements in those fields. Gouget won the 'Women, Research and Enterprise' category for her work in advanced cryptography and its industrial application.

This article originally appeared on cib.bnpparibas.com. Aline Gouget was speaking to BNP Paribas following a presentation she made to BNP Paribas' Women in Business club at the VivaTech innovation gathering in Paris, May 2019..

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APIs IN SECURITIES SERVICES: CREATING THE INDUSTRY STANDARD

APIs (application programming interfaces) are becoming a key part of our industry's digital transformation. But what are they and how are they used? Paud O'Keeffe, Global Head of Client Digital Experience at BNP Paribas Securities Services, explains

Put simply, APIs are codes that are utilised by computer systems to communicate in 'conversation mode', asking questions and obtaining answers in real time. Basic interoperability programmes supporting information exchanges can be traced back to the 1960s, according to Deloitte's *API Economy* report. Yet the growth of APIs in the past decade has been nothing short of astronomical. Aside from improving connectivity, APIs can help companies augment user experiences and acquire insights into customer behaviour.

Technology giants Facebook and Google were the first to spot the commercial opportunities of APIs but the financial services industry has followed suit, with 75 of the top 100 banks now operating API platforms, according to a Boston Consulting Group (BCG) survey on API use in securities services.

Harnessing the power of APIs

The challenges of interoperability and complexity, along with the search for efficiencies, are well documented in our industry and, although APIs may not be a silver bullet, they can provide a powerful tool to allow securities services providers to deliver increased value to clients if adopted effectively.

First, we can look at the volume of data exchanged between organisations in the post-trade industry and the increasing need for information to be made available in near real time. Many large firms, including BNP Paribas Securities Services, have invested in the underlying building blocks to aggregate and deliver data. They have optimised data governance, quality, lineage and security, putting firms in an ideal position to leverage APIs to unlock data in real time.

The challenges that come with the growth in complex asset classes have provided the need for new data feeds to facilitate this expansion. While, in the past, technological change could not always keep up with growth, service providers are now better placed to deliver on new data requirements in a flexible, efficient and timely manner – ultimately helping to reduce risk for clients.

The old joke is 'Faster, better, cheaper. Choose two of the above'. In the securities services industry, we are seeing a real drive for efficiencies, improved customer experiences and faster processing times. While significant progress has been made to improve STP (straight-through processing) rates and reduce breaks through the use of robotic process automation, artificial intelligence and machine learning, there are still process areas that rely on traditional phone and fax for information exchange. System-to-system communication and real-time status updates via APIs provide a potential low-cost route to further enhance efficiency while delivering improved experiences to customers.

Collaboration is key

The API programme at BNP Paribas Securities Services has been developed by working hand-in-hand with our clients. This has ensured a strong focus on delivering real solutions to our clients' key pain points. To date, we have prioritised our API investigation and delivery in areas such as NAV (net asset value) calculation and distribution, settlement instruction and settlement status, and corporate actions, as well as exploring how APIs can help with regulations such as the Shareholder Rights Directive II and Central Securities Depositories Regulation.

Of course, driving product or technology innovation within the confines of a single business is one thing. Creating a sensible framework allowing these technologies to obtain mass market adoption is an altogether different challenge. If emerging or disruptive technologies are to achieve scale, they will need to be underpinned by the same levels of security and resilience as existing channels, and adhere to robust, albeit flexible, standards.

At present, client access to data at their various counterparties is not homogenised, meaning users receive proprietary information in multiple, unique formats. This adds to customer costs, complexity and risk, acting as yet another barrier to achieving interoperability. In a recent BCG survey of asset managers, 70% of respondents said that they were concerned about API interoperability when exploring API solutions with their providers.

Setting the standard

Only through a single, industry-wide API standard will the benefits of this technology be fully realised. Standardisation will outline the principles, methodologies and data definitions covering the ways in which information is exchanged or relayed across clients and their service providers. A standardised set of rules will help reduce the risk of inaccurate data being disseminated while simultaneously streamlining the procedures by which firms collect, aggregate and use data. Such standards must also include guidelines covering data governance so as to ensure that APIs comply with global regulations and rules.

Any harmonisation of API standards will undoubtedly accelerate with the involvement of organisations such as SWIFT. SWIFT has played an instrumental role in promoting standardisation across global securities markets over the past few decades, most notably in its efforts in supporting the delivery of uniform financial messaging standards through ISO 20022. In fact, SWIFT is already involved in API standardisation discussions, having recently published a blueprint for common API standards following engagement with various European banking standards bodies, STET and NextGenPSD2.

To this end, BNP Paribas Securities Services is already partnering with SWIFT to standardise our API catalogue to ISO 20022 as a first step to help drive API standardisation.

What comes next?

APIs have the potential to significantly transform current market practices and the way our industry processes data and provides services. However, unless API processes undergo standardisation, the sharing and use of data will continue to be inconsistent and open to misinterpretation.

The establishment of an API standard will be dependent on the industry working together. Assuming this industry consensus can be reached, API technology will become even more ingrained in the securities services ecosystem and has the potential to unlock new value for all participants. The tech giants have proved the use case for API adoption; now it is the turn of our industry to work together for the benefit of all our clients. Q

CURRICULUM VITAE

Paud O'Keeffe

Paud O'Keeffe is the Global Head of Client Digital Experience at BNP Paribas Securities Services. He and his team recognise the critical role innovation must play in driving growth, amid accelerating disruptive forces and heightened customer expectations.

A career innovator, O'Keeffe and his team partner with BNP Paribas Securities Services' businesses to implement breakthrough solutions for clients.

His experience prior to BNP Paribas spans multiple industries: financial services; the public sector; advertising; education; and information technology. Previous roles include: Head of R&D at Citi Innovation Lab; Director of Technology, Innovation and New Ventures at Houghton Mifflin Harcourt; and Technical Director at Agency.com. O'Keeffe is Chair of the Irish Funds Fintech working group and holds an honours degree in Applied Physics.

"Only through a single, industry-wide API standard will the benefits of this technology be fully realised. Such standards must also include guidelines covering data governance so as to ensure that APIs comply with global regulations and rules"

IT'S A BLOCKCHAIN REACTION FOR ASIAN STOCK EXCHANGES

Stock exchanges in Asia Pacific are powering ahead with blockchain, but there's a need for genuine collaboration to ensure that the end user benefits from its full potential, writes Luc Renard, Head of Financial Intermediaries & Corporates Asia-Pacific for BNP Paribas Securities Services

Harmonising trade across Asia Pacific has long seemed a pipe dream for investors grappling with the frictional costs of trading, with multiple counterparties (exchanges, central securities depositories, central counterparty clearing houses, global custodians, broker-dealers and agent banks) sitting between the issuer and investor.

With so many intermediaries in the securities chain, global connectivity can at times be impeded, especially as a great deal of post-trade infrastructures utilise their own bespoke interfaces and proprietary messaging applications.

Among its many uses, blockchain, or the distributed ledger technology (DLT) underpinning it, has long been vaunted as a potential solution to the challenges facing securities markets as cost pressures and the need for new, speedier ways of trading and augmenting practices intensify.

Right now, across Asia Pacific, a number of potentially pivotal developments are taking place in the trading and post-trade space, with stock exchanges rapidly gaining ground on the adoption of blockchain, integrating the technology into their core systems and activities.

ASX leading the charge

The Australian Securities Exchange (ASX) has been an early mover when it comes to blockchain innovation, announcing that its 25-year-old Clearing House Electronic Sub-Register System would be replaced with a DLT solution. The ASX has partnered with Digital Asset Holdings to create a working prototype for cash equities clearing and settlement processes. BNP Paribas Securities Services has participated in the working group for this transition programme over recent years.

Experts say a DLT-supported platform will enable the ASX to deepen its product pool and provide for a better, safer client experience. The ASX has since confirmed that it will go live with DLT in March–April 2021.

HKEX turns to blockchain

Unlike the ASX's move to adopt DLT enterprise-wide, Hong Kong Exchanges and Clearing (HKEX) is working with Digital Asset Holdings and BNP Paribas to enhance its post-trade infrastructure. This is aimed more specifically at accelerating the processing of northbound transactions on Stock Connect, which links the HKEX bourse with its counterparts in Shanghai and Shenzhen.

Designed to offer international investors easier access to Chinese A-shares, Stock Connect has encountered some issues that have prevented institutional investors from taking part. Investors trading China A-shares via Stock Connect currently only have a four-hour time window to settle their transactions, forcing institutions to pre-fund their trades, thereby exposing them to settlement risk.

The complexity of a real-time delivery versus payment (DVP) model, which is a necessity for some regulated fund products such as Undertakings for Collective Investment in Transferable Securities and Alternative Investment Fund Managers, increases settlement risk and funding cost on Stock →

"Stock exchanges will continue to leverage blockchain technology, which can bring about major improvements in securities trading for end investors and intermediaries"

→Connect. Therefore, a number of leading providers, including BNP Paribas, have developed integrated broker-custodian models or special segregated account structures to facilitate real-time DVP for clients. BNP Paribas and HKEX have been working extensively to further improve the process.

HKEX is developing a prototype solution to enable market participants to specify their settlement workflows in advance, helping to bridge time zones, while allowing for real-time synchronisation of the post-trade status between asset managers, brokers, custodians and the Hong Kong Securities Clearing Company, HKEX's central counterparty clearing house. It is hoped that this DLT solution will help increase foreign investor flows through the Stock Connect access scheme.

"Stock exchanges are rapidly gaining ground on the adoption of blockchain, integrating the technology into their core systems and activities"

Singapore improves its efficiency

The Singapore Exchange (SGX) is also integrating blockchain technology into its core infrastructure alongside ASX and HKEX. In November 2018, SGX and the local regulator, the Monetary Authority of Singapore (MAS), confirmed they had successfully developed DVP capabilities for the settlement of tokenised assets across multiple blockchain platforms.

The prototype shortens the trade settlement cycle and reduces settlement risk. And the simultaneous exchange and settlement finality of digital assets and securities on different platforms vastly improves operational efficiencies during the course of the transaction. SGX and MAS are also assessing whether to automate the DVP settlement process through smart contracts, or self-executing, algorithmic legal agreements.

In March 2019, SGX and SWIFT announced their intention to trial a platform for e-voting based on blockchain technology. The proof-of-concept (POC) trial sets out to test a DLT voting solution involving issuers and a central securities depository, with data managed over a permissioned private blockchain. If successful, the platform could set a global standard for fund managers and corporate issuers.

The proof of the pudding is in the collective eating

The proliferation of blockchain POCs under way across banks, infrastructures and institutional investors has led to calls for securities markets to ensure that initiatives are harmonised as much as possible across organisations. The technology risks being developed in narrow, siloed ecosystems, possibly preventing future interoperability if firms don't agree on universal standards and implement joint governance frameworks to underpin blockchain.

Just as SWIFT enhanced industry-wide efficiencies and reduced market risk by shaping the standards underlining financial messaging, leaders in the blockchain movement should define a similar approach. This could be done by integrating DLT with ISO 20022 or through an entirely new solution. A failure to find common ground on market standards could result in a blockchain that is too highly fragmented to deliver any real cost benefits for the end users.

It's only the beginning

It is likely that stock exchanges will continue to leverage blockchain technology and pursue POCs, which could bring about major improvements in securities trading for end investors and intermediaries. Anticipated improvements could come in the form of lower trading costs and the removal of a number of the risks involved, and could lead to firms accumulating healthier returns.

CURRICULUM VITAE

Luc Renard

Luc Renard is Head of Financial Intermediaries & Corporates Asia-Pacific for BNP Paribas Securities Services, based in Hong Kong.

Luc has 16 years' asset servicing industry experience, including eight years in the Asia-Pacific region, most recently as Head of Clearing and Custody Services for Australia and New Zealand.

Luc represents BNP Paribas at the ASX Business Committee, the Stockbrokers and Financial Advisers Association in Australia and the NZClear User Advisory Committee in New Zealand.

COMPLIANCE: BANKS' NEW COMPETITIVE FRONT?

Compliance 2.0 needs to be about more than automation, says Stephanie Marelle, Global Head of Compliance at BNP Paribas Securities Services

During a recent Sunday family lunch, my father suddenly asked me: "In your job, you are in charge of verifying that banks follow their rules. Tell me, are they allowed to ask me all of these intrusive questions?" He handed me a substantial pack of paper – a suitability questionnaire, combined with updated Know Your Customer (KYC) documentation requests. Before I had time to explain that his bank was obligated to collect all of these documents for his own protection, he added: "You tell me that they do all this in order to know what they can NOT sell to me? That is totally mad!"

Anyone working in the financial world has similar anecdotes, prompted by a surge in regulation of all types.

In this emerging 'new normal' environment, an unexpected category of bankers has blossomed: compliance officers. These bankers are tasked with navigating hundreds of rules, protecting clients and the integrity of markets. Not only have their missions become more prominent, their number has increased by the thousands in a matter of a few years.

From its initial challenge of deciphering thousands of pages of new regulations, the compliance function's effort is gradually shifting to implementing and processing information – a 'Compliance 2.0' phase. These processes are still largely labour-intensive.

When the banking industry has faced sudden surges in volumes of manual processes in the past, it has structured its response around three pillars: creating adequate market infrastructures; fostering common norms and standards; and focusing on automating processes.

All three steps seem very relevant again when discussing how to take compliance processes forward.

However, not all three pillars are being granted the same level of attention, with the automation of processes capturing most of it. It would be beneficial to the industry to progress the other two pillars. Although less fashionable, they are likely to be instrumental in achieving leaner compliance monitoring in the long term.

One such attempt is SWIFT's KYC Registry, which went live in early 2019. This centralised register of KYC data and documents prevents every institution from having to establish multilateral processes to collect such data as and when needed.

Creating such an infrastructure required the whole industry to agree on a minimum set of rules and standards. To go further, local regulators will most likely need to converge towards international standards. Such a market infrastructure could extend beyond the fields of KYC to transaction surveillance more broadly.

These suggestions would help financial institutions enhance efficiency and the client experience. They would also help them optimise compliance costs, which can represent up to 15% of banks' total spend. During the initial surge of new regulations, this was seen as a 'cost of doing business'. However, compliance costs can be vastly optimised, notably by designing 'end-to-end' business processes that embed compliance checks.

In the new battle to restore competitiveness, there will be those that make it and those that don't. Experience shows that those institutions embracing the challenge and taking a leadership role are often best placed to succeed.

Wendy Barrows

THE NEW FACES OF ASSET SERVICING FOR US MUTUAL FUNDS

When BNP Paribas Securities Services acquired client Janus Henderson Investors' '40 Act fund operations activities in 2018, it was propelled onto the US mutual fund administration scene. Claudine Gallagher, Head of the Americas for BNP Paribas Securities Services, and Andrew Dougherty, its Americas Head of Asset Managers and Alternative Investors, discuss how they plan to offer the market a differentiated service focused on best-in-class delivery for clients, which will include a depth and breadth of services that only an integrated bank can provide

Q: Why did BNP Paribas Securities Services decide to offer capabilities to service '40 Act funds?

Claudine: BNP Paribas Securities Services is the fifth-largest global custodian and we have a very strong presence in Europe and Asia Pacific. As we have ambitions to be the world's premier securities services provider, we need to continue expanding our business in the world's largest capital market – the US.

Andrew: Servicing '40 Act funds [pooled investment vehicles offered by a registered investment company, as defined in the US 1940 Investment Companies Act] is the next logical stage in our ten-year journey to grow our US business, which began in 2012 with the launch of our local and global custody offering.

Q: Tell us more about your acquisition of Janus Henderson's mutual fund operations.

Andrew: The acquisition – or lift out – of Janus Henderson's middle and back office operations included 140 of their mutual fund operations experts, who are now part of our '40 Act fund servicing team. Those professionals, based in Denver, Colorado, work across specialisations within IT, middle office transaction processing, and the core capabilities of fund accounting and administration. Importantly, this team was grown over decades from inside a global asset manager, which means they see the world in the same way as our clients. They bring a unique skill set to our servicing capabilities, which sets us apart in the fund administration sector.

Q: What type of clients are you targeting with '40 Act fund servicing?

Claudine: We have three target markets and these are heavily influenced by the trends that we are seeing in fund distribution, particularly asset managers wanting to diversify into different regions. We will focus on existing clients in Europe, Latin America and Asia Pacific that are targeting '40 Act franchises in the US, by providing them with a harmonised service across all asset classes and markets. The →

CURRICULUM VITAE

Claudine Gallagher

Claudine Gallagher is Managing Director and Head of the Americas, for BNP Paribas Securities Services. She is on the Board of Directors of the Depository Trust & Clearing Corporation and has been recognised by *American Banker* as one of the '25 Most Powerful Women in Finance'.

CURRICULUM VITAE

Andrew Dougherty

Andrew Dougherty is Managing Director and Americas Head of Asset Managers and Alternative Investors for BNP Paribas Securities Services.

> **"As we have ambitions to be the world's premier securities services provider, we need to continue expanding our business in the US"**
>
> CLAUDINE GALLAGHER, HEAD OF THE AMERICAS, BNP PARIBAS SECURITIES SERVICES

→second target market is US domestic asset managers. This group may want to expand their business across the globe, but feel underserved by existing securities services providers. The third market is those asset managers who want to work with one provider across multi-asset classes as opposed to receiving bifurcated service offerings for alternative and traditional asset classes. We can offer a harmonised service across all products, be they public funds or private investment vehicles.

Q: How do you differentiate yourself from competitors in the market and how will clients benefit from working with you versus another provider?

Andrew: BNP Paribas Securities Services is one of only a small handful of universal bank providers servicing '40 Act funds. This means we bring the entire Bank to our clients. We offer everything from fund administration and accounting to global and local custody, FX and agency securities lending. In addition, we can help with financing, capital markets and brokerage needs. This results in efficiencies for our clients.

Claudine: We are unique in that we are providing a local presence within a very robust global framework. That means, for example, that we can service the growing number of US asset managers that want to domicile funds in foreign markets. Until now, they would typically have had to utilise a local securities services provider to support their expansion in a new market. For example, if a US asset manager wanted to domicile an infrastructure fund in Italy, they would likely have used a local Italian custodian. BNP Paribas' harmonised global service and expansive global network mean they can rely on our expertise in numerous jurisdictions as they expand into new geographies.

Andrew: BNP Paribas is one of only two service providers to claim a proprietary custody network covering the vast majority of our clients' global investment funds. Our broad local custody network covers 26 of the largest markets and 90% of clients' assets are within the BNP Paribas network. Again, that creates many market efficiencies because clients don't need to use a local intermediary for asset protection.

Q: You have had a presence in the US market since 2012; how has BNP Paribas Securities Services' business in the US grown over that time?

Claudine: The suite of products is dramatically different from when we started. Following the Janus Henderson acquisition, we are truly full service. We deliver everything from custody and settlement to derivatives clearing, collateral management, securities lending, alternative and traditional fund services and loan administration. The past few years have been about product development, building out our locations and hiring the right staff. We are now ready to provide a more robust offering to our asset manager clients.

Q: Which trends do you see in US fund administration?

Claudine: Fund administration is driven by clients' critical business issues. The glaring issue is the low interest rate environment, which is really pushing asset class diversification. So for fund administration that means offering better multi-asset servicing. Data, data management and analytics will continue to drive the business forward. Fee erosion coming from the passive side will continue straining fee revenues so efficiencies in the back office will be paramount, as will robust reporting. Interest in ESG continues to grow, as do products featuring ESG themes. And all things digital, cybersecurity and the ever-changing regulatory environment are no longer trends but facts of life.

Andrew: The growth of private capital and therefore the need to be able to service multi-asset classes will continue to increase. We're seeing a lot of movement of asset managers adding to their product offering, especially on the private capital side, which in the next market cycle will have a greater influx of assets. Aside from that, the ETF market will continue to grow. Q

BNP PARIBAS' ETF OFFERING

The US exchange-traded fund (ETF) market has grown by USD 1.8 trillion in just four years, according to research and consultancy firm ETFGI, which means asset managers need securities services to keep pace with such fast evolution. Jeffrey Baccash, Global Head of ETF Solutions at BNP Paribas, reveals how the Bank will deliver the latest support directly to asset managers' fingertips

We have seen how important ETFs are for asset managers, not just in the US, which is the biggest market, but in other countries around the world. It makes sense, then, to develop a special ETF offering that will support the '40 Act fund servicing.

The ETF market globally is growing, but the development is inconsistent; not every jurisdiction is at the same stage as the US market. But that does not mean managers should accept inconsistency of service. BNP Paribas Securities Services has developed an offering that looks and feels the same regardless of jurisdiction and works seamlessly for ETF managers operating locally and globally.

We currently serve more than 200 ETFs registered in five different domiciles across the Americas, Europe and Asia. The consistency of our next-generation ETF platform is the result of extensive collaboration with asset managers, third-party consultants, technology providers and other members of the ETF ecosystem the world over, who have given us a unique perspective on what the sector needs.

Irrespective of whether the manager offers pure passive ETFs, a mix of active and passive, or – as we are increasingly seeing – active ETFs, we have a service to support them.

Technology has been a critical consideration in our ETF offering. For example, we recognise the growing influence smartphones have on the way people do business. We will develop mobile applications that allow managers to tap into the service on the go, no matter where they are in the world.

Finally, we are leveraging the breadth of services available to us as part of a corporate and institutional bank. This is an important differentiator for us in the market since relatively few of our competitors have access to the depth and breadth of products and services on offer at BNP Paribas.

We are working across all parts of the Bank, developing new innovations that will continue to make life easier for our current and future ETF clients across the globe.

> **"We are one of only a small handful of universal bank providers servicing '40 Act funds. This means we bring the entire Bank to our clients"**
>
> ANDREW DOUGHERTY, AMERICAS HEAD OF ASSET MANAGERS AND ALTERNATIVE INVESTORS, BNP PARIBAS SECURITIES SERVICES

Claudine Gallagher and Andrew Dougherty plan to deliver a best-in-class service

CURRICULUM VITAE

Jeffrey Baccash

Jeffrey Baccash is the Global Head of ETF Solutions at BNP Paribas Securities Services. In this role, he is responsible for driving the global strategy and enhancing the value proposition for ETF issuers and all other stakeholders in the ETF market. Baccash is a member of the Investment Company Institute's ETF Advisory Committee.

SHANGHAI-LONDON STOCK CONNECT

BREAKING GROUND ON CROSS-BORDER ISSUANCE

With the first Chinese company already trading on the Shanghai-London Stock Connect scheme, brokers are keen to understand the benefits of this new east-meets-west mechanism connecting two major stock exchanges. Here, we summarise the key points and insights from a BNP Paribas roundtable held in Shanghai in September 2019

Shanghai-London Stock Connect is the latest in a series of initiatives designed to act as a bridge between China's financial markets and the rest of the world. As the name suggests, it creates a link between the Shanghai Stock Exchange (SSE) and the London Stock Exchange (LSE).

Launched in June 2019, the Shanghai-London Stock Connect creates a two-way mechanism, with westbound and eastbound business. For the very first time, foreign companies are able to list in mainland China and directly access Chinese investors. Conversely, Chinese companies are able to raise funds overseas via London with instruments that are fungible with their domestic shares.

As noted by Brian Schwieger, Global Head of Equities, Secondary Markets, London Stock Exchange Group, the new scheme demonstrates the UK and LSE's commitment to Asia: "Shanghai-London Stock Connect represents one of the most important ways in which we are seeking to engage and partner with investors in China and Asia."

Cross-border issuance

One of the major differentiators for Shanghai-London Stock Connect is that companies listed on the two stock exchanges can issue, list and trade depository receipts on the counterpart's stock market in accordance with the corresponding laws and regulations. So for example, eligible companies listed on the SSE, can issue global depository receipts (GDRs) and apply for their listing on the Main Market of the LSE. This was put into practice in June 2019, when integrated securities group Huatai Securities became the first Connect issuer with USD 1.69 billion of GDRs on the Shanghai Segment of the Main Market of the LSE. This landmark issue allows international investors to access securities fungible with Chinese A-shares on an exchange outside China. Since its listing, Huatai's GDR has already proved itself to be a liquid security, exceeding USD 1 billion of turnover at the beginning of September, said Schwieger, adding that around 25% of trading came from mainland Chinese and Hong Kong retail investors.

Working with brokers on a daily basis, Sabina Liu, Business Development Manager of Secondary Markets, London Stock Exchange, noted: "London's trading hours sit between those of Asia and the Americas. With over 330 member firms globally, 14 of which are from Greater China, and with many more accessing through third-party brokers, London provides a unique opportunity for traders to trade outside their domestic markets and manage risks."

In addition to the funds raised, Huatai gains broader benefits from listing on one of the world's most international exchanges. LSE issuers operate in over 100 countries and the investor base is equally diverse thanks to its mix of local and global investors, along with institutional and retail money.

"If a company trades in a pool of liquidity where all of the investors are retail, they will typically go in the same direction at the same time," said Schwieger. "But if you →

"It is the first time that foreign companies will be able to list in mainland China and directly access Chinese investors. It is also the first time that Chinese companies will be able to raise funds overseas"

→have a globally diverse range of investors that includes institutional funds as well as global retail, it will give you a more stable pool of liquidity to trade in."

Some of the advantages of a London listing are less tangible but just as important. "Since June, Huatai has significantly raised its profile in the City of London. Its listing brought it global reach and recognition, and I think that is very important," said Schwieger.

With the first Chinese GDR already trading, the focus has shifted to see which company will be the first to list in the other direction by issuing China Depository Receipts (CDR) on the Shanghai Stock Exchange. The bourse is already talking to a number of companies that could be among the inaugural issuers, said Victor Ye, Senior Vice President, Global Business Development Department at Shanghai Stock Exchange. "The SSE has finished the majority of preparations in the business and technical system for the launch of CDR, and more than ten members have applied to act as conversion brokers and market markers of CDRs," he added.

Understanding the market structure

Although the depository receipt market is already well established in the UK, "there are some nuances specific to the Shanghai–London Stock Connect model that we have to consider when building an end-to-end solution," noted Gary O'Brien, Head of Custody Product for Asia Pacific, BNP Paribas Securities Services.

Custodians must develop structures that enable the smooth trading of securities between China and the UK

With the first Chinese GDR trading, focus has shifted to which company will be the first to trade in the other direction

These include the different lengths of settlement cycles in Shanghai and London, the different currencies in each market, as well as time zone differences between the two.

Chinese financial institutions looking to take part in the scheme are still considering the best structure to put in place. This could include setting up a brokerage entity in the UK to facilitate trading flow, or partnering with a local broker instead.

"Companies are changing their models and structures, and not just using the structure they already had in place," said O'Brien. "A number of parties have either set up or are in the process of setting up entities within the UK market."

He described the broker-to-custody model, which is a way that a securities company can interact through a broker in the UK. That broker will work with their local agent to facilitate settlement into an investor's account. The advantage of this structure is that it reduces the operational overheads associated with set-up, which a Chinese party might otherwise incur.

In addition to a relationship with a local brokerage, participants in Shanghai–London Stock Connect need to open an account with a custodian bank. The unique cross-border features of the Connect schemes can make the role of the custodian more important than in more standard market structures.

The different settlement times (T+0 in Shanghai and T+2 in London), for example, means that companies trading on Connect will want to review their hedging solutions and liquidity requirements. A custodian in the UK can help by offering securities lending services, said O'Brien, which is a service that Chinese brokerages might not be familiar with in their local market.

The future of Shanghai–London Stock Connect will depend on the active participation of all parties. The roundtable discussion showed that many Chinese brokers are reviewing their access solutions for the scheme, and are keen to see it succeed, but are not going to be able to provide an end-to-end solution without partnering with key experts in cross-border solutions. Custodians for their part will have to develop the structures to ensure that the securities can be traded smoothly between investors in both China and the UK. "Ultimately, an ecosystem of market participants will develop new capabilities and benefit from this connection between Shanghai and London for many years to come," said Liu.

SUPPORTING THE SHANGHAI–LONDON STOCK CONNECT SCHEME

BNP Paribas Securities Services has been working closely with market infrastructures, as well as with clients across London and several Asian locations, to support them in accessing Shanghai–London Stock Connect. The Bank offers a full range of custody, outsourcing and middle office services to support those participating in the scheme. This latest development further enhances the global and local connectivity that BNP Paribas Securities Services provides to banks, brokers, institutional investors and issuers.

iStock

OUTSOURCING: A NEW DAWN FOR DEALING DESKS?

Outsourced dealing services are increasingly considered an effective alternative, or a complementary service, to support internal dealing teams, says Thomas Castiel, Head of Dealing Services at BNP Paribas Securities Services

Q: What is outsourced dealing?
Outsourced dealing is the use of a third party to place and process orders in the market with brokers/counterparties and trading venues. It can provide an alternative or extension to an in-house dealing function, offering the experience and infrastructure needed to achieve effective execution on behalf of its clients.

Q: What about in-house dealing? Does that still exist?
Historically, investment managers had responsibility for the execution of orders, which they did by making a telephone call to a broker who then executed the order in the market.

As firms grew, technology improved and market infrastructure became more complex, leading to the introduction of order management systems (OMS) and a centralised dealing function. The dealers had responsibility for routing orders to brokers or other execution venues with the goal of obtaining best execution as defined by their firm's execution policy.

In recent times, the dealing role has evolved and become more sophisticated as new trading methods and venues have appeared. Notably, it has become less administrative and more specialist. However, not all in-house dealing teams have the capability to deal with the new world.

Q: Aren't there some concerns about outsourced dealing?
You're right. The market for outsourced dealing has been slow to develop. In the past, some of the concerns had been around a lack of confidence in providers, a misunderstanding of the services on offer and a lack of visible flagship clients to encourage interest and uptake. →

> **"The dealing role has become more sophisticated as new trading methods and venues have appeared. It has become less administrative and more specialist. Not all in-house dealing teams have the capability to deal with the new world"**

In numbers: key findings from the BNP Paribas-Sionic survey of European investment managers

20%
of firms have outsourced some or all of their dealing; all 20% were managing less than EUR 30 billion

21%
of those firms that have not outsourced dealing say they will consider outsourcing in the next 18 to 24 months

44%
of firms say supporting regulatory requirements is their biggest challenge

46%
of firms say they would be interested in bundled services, including dealing, investment operations and custody

CURRICULUM VITAE

Thomas Castiel

Thomas Castiel is Head of Dealing Services at BNP Paribas Securities Services, where he is responsible for defining global product strategy for Dealing Services and developing bundled solutions. He joined BNP Paribas in 2001 and has held various management positions in clearing and custody operations.

What outsourced dealing providers can offer to investment managers

- Cost efficiencies
- Help to meet best execution requirements
- Execution services for a range of asset classes across global markets
- Transaction cost analysis reporting
- Access to skilled dealing operations with advanced dealing techniques
- Comprehensive dealing infrastructure and execution management systems
- 24-hour dealing support
- Access to multiple sources of liquidity
- Enhanced negotiation benefits through higher dealing volumes
- Anonymised dealing
- Transaction reporting support
- Other bundled services such as middle office trade management and custody

→ More recently, we surveyed 30 investment managers across Europe about this issue in association with Sionic – a global financial services consulting firm. Our research shows that two factors are of particular concern today. The first relates to dealers being remote from investment managers, leading to a delay in communication between the two and a loss of control of the dealing process on the part of investment managers. The second relates to a reduction in market awareness by not having direct access to brokers.

However, outsourcing of services has moved up the value chain from repeatable, commoditised services to more complex and bespoke business processes based on high levels of knowledge and expertise.

Q: So, who is using outsourced dealing?

Initial adopters were hedge funds and start-ups, followed by asset owners who wanted to free their managers from execution without creating an internal dealing function. We now see investment managers looking to supplement their existing dealing operation with support in different regions. Interest and uptake are on the rise, especially among larger investment managers as the number of service providers is growing. More widely recognised outsourced service providers have fully established offerings, which bring greater confidence.

Q: How can outsourced dealing benefit clients?

Asset owners historically have not prioritised the costs of execution, implicit or explicit. However, all parts of the investment process are being reviewed to ensure clients get value for money from their investment managers due to increased fee pressures. Outsourced dealing is likely to be seen positively, especially if some of the cost savings are passed on in the reduction of fees.

Q: How should you go about selecting the right outsourcing provider?

The services offered by providers vary considerably in terms of asset class support, geographical presence, service models and payment methods. When selecting a provider, it is important to identify your key requirements for outsourcing, then shortlist and select a provider accordingly.

We asked our survey participants what their top three factors would be when looking for an outsourced service provider. Two-thirds answered that proven capability and experience to improve execution outcomes was a priority. This was closely followed by regulatory support in the form of Transaction Cost Analysis and regulatory reporting and, third, by cost savings.

This article is based on Outsourcing: a new dawn for dealing desks? *– a white paper authored by Thomas Castiel of BNP Paribas Securities Services and Clare Vincent-Silk of Sionic – sionicglobal.com. To access the white paper, visit bit.ly/2jUUwKS.*

The benefits of outsourced dealing

1. Managing costs
Key costs directly attributable to dealing are people, data and systems. Using an outsourced dealer alleviates a number of these costs, converting fixed costs into variable costs, reducing management overheads and execution costs. Firms with smaller volumes, and all the costs of systems and data for a three- or four-person team, are likely to find more cost advantages in outsourcing.

2. 24-hour dealing
Some investment managers are looking for support in other time zones, as there is concern that leaving orders overnight with brokers in other regions might not achieve the best possible result. An outsourced desk will have greater awareness of its clients' requirements, allowing it to make informed decisions, such as to cancel/amend an order given a news event/price shock.

3. Reducing operational risk
Responsibility for operational risks such as dealing errors – for example, entering an incorrect amount – lies with the outsourced dealers and is covered by their balance sheet and augmented by their insurance.

4. Improved execution outcomes
Outsourced dealing providers are likely to have a number of characteristics that improve execution outcomes, including:
- Access to a highly skilled dealing operation
- Larger scale, giving them greater negotiation benefits
- Greater connectivity to a wide range of markets and venues
- Access to wider and better liquidity
- The ability to trade anonymously for a client in the market if required

5. Regulatory support
Since the 2008 financial crisis, there have been growing regulatory demands on investment managers, predominantly around best execution, pre-trade price transparency and post-trade reporting. Regulatory responsibility cannot be shifted to the outsourced service provider from the investment manager. However, outsourced dealing can substantially alleviate the regulatory workload.

6. Keeping up with technological advances
Dealing desks need to stay up to date with technological developments to compete in the market and to prevent erosion of alpha. Firms are starting to build portfolio analytics and trade simulation internally, but it is costly to maintain. Outsourced dealers, who need to invest in new technologies to remain competitive, are a cost-effective short cut to accessing technological innovation.

GETTING WARMER: THE SECURITIES LENDING MARKET IN 2020

Eric Deudon, Global Head of Market and Financing Services at BNP Paribas Securities Services, shares his views on some of the changing dynamics in securities lending

Q: What are the current trends that you see in the securities lending market?
Activity is particularly strong in Asia Pacific [APAC], bolstered by strong demand in some very dynamic markets such as Hong Kong. This is why we are further expanding our securities lending business in the region.

There continues to be robust borrower demand for eligible collateral securities and high-quality liquid assets [HQLA], especially for US Treasuries and European fixed income. This is being driven by regulations such as Basel III's Supplementary Leverage Ratio, Liquidity Coverage Ratio and Net Stable Funding Ratio. As a result, the ability to lend out these assets on a term structure will remain highly sought after, even though spreads have recently been under pressure. Demand for HQLA is also being fuelled by regulation (i.e. Dodd-Frank) which mandates that financial institutions post good quality collateral as margin on their over-the-counter trades at either CCPs [central counterparty clearing houses] or bilateral counterparties.

Securities lending revenue linked to equities was lower than expected in 2019. The marginal slowdown in demand is primarily a result of the drop-off in mergers and acquisitions over the past two years, which saw global deal-making decline by 11% to USD 2.8 trillion. Meanwhile, exchange-traded funds [ETFs] as assets have driven strong interest, fully supported by ETF asset managers who are keen to ensure a high level of liquidity to facilitate the work of market makers and drive more flows into their programmes.

Q: How is regulation shaping the securities lending market?
Regulation is a focus for market participants. Demand for HQLA will increase as the Basel III and IOSCO [International Organization of Securities Commissions] fifth and sixth waves of initial margin regulation come in over the next two years [see page 24 for further information].

Inside the European Union, the Securities Financing Transactions Regulation [SFTR] is due to go live in April 2020. SFTR is partly modelled on the European Market Infrastructure Regulation framework insofar as it insists that institutions engaging in securities lending and borrowing (plus repurchases or 'repos' and sell and buy-backs) practices disclose the details of their transactions to an ESMA [European Securities and Markets Authority]-approved trade repository. BNP Paribas is already providing support to clients as they prepare for SFTR [see page 56 for further information].

Elsewhere, the Central Securities Depositories Regulation [CSDR] is poised to introduce widespread efficiencies into the securities lending market by imposing mandatory buy-ins (where the lender recalls shares) and financial penalties for late settlements. Furthermore, operational efficiencies within lending programmes will become an increasingly important factor when pricing loans. Institutions that develop straight-through processing loan and recall processes will be net beneficiaries of the positive pricing premium versus those organisations that are less efficient.

Despite the benefits, new rules do of course generate costs for clients, and this is prompting institutions to outsource more of their operational activities →

→and regulatory reporting requirements to their custody service providers.

Q: What level of incremental revenue can institutional investors expect from engaging in a securities lending programme?

The current historic low/negative interest rate environment, along with other challenging market headwinds, has made it harder for beneficial owners to ignore the added value that securities lending can deliver. Revenue generation from securities lending is ultimately determined by the nature of the underlying assets that an institution holds, but also the tenors (the amount of time remaining on the loan) and the collateral that will be acceptable. In terms of securities lending revenues, a stable portfolio can generate a wide range of returns, keeping in mind that the main revenue drivers will be specials, ETFs or HQLA on term. Furthermore, potential additional revenues can be accrued through the reinvestment of cash collateral, which will complement the intrinsic value obtained from the securities lending programme.

However, regulators are challenging asset managers regarding the proceeds that they generate from securities lending. Regulators want to ensure that the revenues are split fairly between the asset management arm and the fund itself.

Q: Which are the main concerns of asset managers when engaging in securities lending?

A proper governance framework is essential when entering into a securities lending programme, which means asset managers need to have full oversight and transparency of the activities being undertaken. From authorised borrowers and collateral to ad-hoc or specific parameters, the onus on asset managers is to ensure they have strong and robust internal controls over their programmes, which comply with the relevant regulatory frameworks.

Q: How are you enhancing your securities lending proposition?

We offer principal and agency lending, a proposition that is not available at many of our competitors, but which gives clients maximum flexibility. We have made various enhancements to our securities lending product offering. For example, we are expanding our agency/principal services in Hong Kong, and are increasingly looking to leverage our in-house triparty capabilities to deliver a broader product suite to clients.

For agency lending, a combination of organisational changes and enhancements to our platform's operating model has enabled us to better service our existing clients while preparing the business to grow substantially. Our global lending platform now enables assets in any major market across the globe to be placed on loan 24 hours a day, five days a week. This model results in better execution for client assets due to the local expertise of lending desks around the world to distribute assets in their local markets.

In terms of principal lending, we operate a single trading engine across BNP Paribas Corporate & Institutional Banking. Clients benefit from the combined capabilities of our Securities Services trading desks (i.e. equities and fixed income) as well as our Global Markets trading desks. By leveraging these channels together, BNP Paribas provides optimal pricing and utilisation to its clients, who are serviced by BNP Paribas Securities Services and benefit from its operational and reporting capabilities.

CURRICULUM VITAE

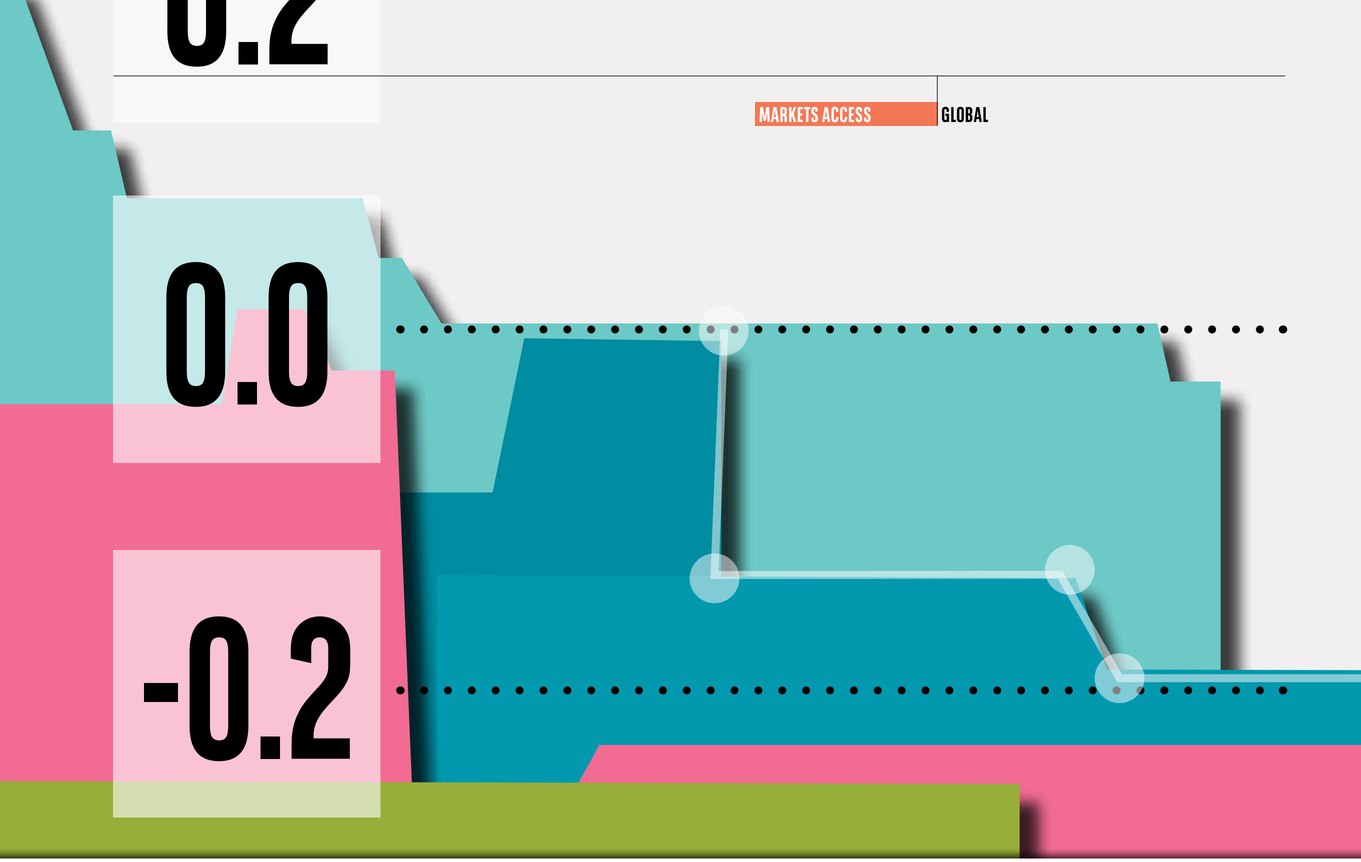
Eric Deudon

Eric Deudon is Global Head of Market and Financing Services and a member of BNP Paribas Securities Services Executive Committee. Prior to this, he was Head of Global Markets for the Middle East and Africa. Deudon joined BNP Paribas in 1990 as Head of Trading for BNP Paribas Securities Tokyo.

Q: Do you have a message for new lenders contemplating entering the securities lending market in 2020?

First, you need to assess whether a principal or agency model is the right solution. The two offerings are readily available but the risks are ultimately very different. For instance, a large asset manager might prefer to go for the agency model as it provides better risk diversification although other firms may opt for the operational simplicity that comes with the principal model.

Second, firms must identify their optimal risk-return framework (i.e. type of collateral an entity can accept, nature of the tenors). Collateral 'flexibility' in particular is a critical factor for beneficial owners to consider when setting up a new lending programme. Participants must also seek assurances that their service providers have excellent operational controls in place along with robust post-trade reporting.



THE SIDE EFFECTS AND IMPLICATIONS OF A LOW AND NEGATIVE YIELD WORLD

Following the Great Recession, many central banks embarked on quantitative easing programmes that resulted in structurally lower global government bond yields. Today, around a third of government bonds globally and just over half of those in Europe are yielding negative rates. Pierre Mathieu and Robert McAdie look at how this has impacted market risk and investment behaviours

One notable side effect of the bond 'rally' is the increase in duration, which has created significant risk as and when yields increase (take, for example, the +45bp yield move between late August and early November 2019, which caused some long-dated bonds to drop by as much as 20%). Today, risk is being shifted towards so-called risk-free assets, where potential losses will be higher due to the impact of duration and where volatility is structurally higher. This significantly reduces the Sharpe ratios of risk-free assets, rather than those of risky assets. By way of example, Bund bond prices have been much more volatile than high yield bonds.

The yield spiral is another side effect of a low/negative world. Investors are caught in the spiral – forever chasing that extra yield, driving yields lower and increasing the pool of negative-yielding bonds. This pushes many to move outside their comfort zone into alternative, but less liquid, asset classes. Assets from private markets have become a key investment alternative to public markets and the size of these market is at a formidable USD 5.8 trillion. If global growth slows in 2020, as we and many others expect, risky assets are likely to underperform and withdrawal pressures are likely to drive losses in this illiquid sector.

Dramatic effect on pensions

Lower rates have also had a dramatic effect on pension schemes, which are grappling →

→with growing liabilities due to the fall in rates and ever-diminishing returns on their assets. Many pension funds are now facing the unpalatable prospect of having to reduce pay-outs (for example, in the Netherlands), as the expected rates of return on bonds have dropped (this effect has been compounded by the fact that they were forced to hold more bonds and less risky assets for liquidity and risk reasons). A similar problem is facing many life insurers, especially in Germany, where they have sold yield-guaranteed products where the underlying asset yield does not meet the guaranteed yield.

As yields have fallen, listed companies have been more eager to borrow money in order to reward shareholders via dividends and buy-backs. This has fuelled the rise in global stock markets, while also driving up leverage in many company balance sheets.

In fact, US BBB and Single B company leverage (net debt to EBITDA) is now at a ten-year high. On any economic slowdown, earnings will fall further, fuelling leverage and driving more rating downgrades. This is a key risk, given that the US BBB sector accounts for 57% of the IG US credit market.

Fund industry disruption

One final point to mention is the disruption to the fund industry. With listed equity asset valuations near their highs and bonds paying near zero or negative yields, we have witnessed an outflow from more expensive actively managed funds into cheap passive funds and exchange-traded funds (ETFs). In the US, equity ETFs' assets under management (AUM) are now larger than the AUM of actively managed equity funds. Given the easy accessibility to financial markets that ETFs create, many retail investors have direct access to trade assets that in the past were the domain of professional investors alone. While this may not be a problem in a bull market, it creates an asymmetry in a bear market where panic selling by ETF holders is a distinct reality, thus exacerbating volatility.

In summary, the drop in global government bond yields is a sign that risks are increasing in global markets. While central bank policy has so far averted a recession, further weakening of the economy or a rebound in yield due to an improvement in the economy is likely to push volatility higher.

Can rates rebound off these low levels? Yes they can, but we cannot see a case for yields increasing back up to 1980 levels, let alone 2000 levels, as there are enough key structural factors keeping rates down – i.e. globalisation, ageing populations and regulation:

- Globalisation has enabled companies to reduce their costs via outsourcing production, thereby creating downward pressure on inflation
- People are living longer, and hence need to save more in order to better plan for expenses as they get older
- Finally, regulation and capital requirements have further increased the demand for safe assets, with banks having to hold substantially larger levels of capital and liquid reserves ◘

CURRICULUM VITAE

Robert McAdie

Robert McAdie is the Chief Cross Asset Strategist at BNP Paribas, where he is globally responsible for strategy and views on interest rates, FX, credit, equity and derivatives and emerging markets. McAdie joined the firm in 2010 from Barclays Capital.

CURRICULUM VITAE

Pierre Mathieu

Pierre Mathieu works as a Cross Asset Strategist in BNP Paribas' Cross Asset Team. He looks for trade opportunities across a wide range of different asset classes and instruments. His prior experience includes various trading teams at BNP Paribas. Mathieu joined the firm in 1998 from Crédit Industriel et Commercial in Singapore.

"We cannot see a case for yields increasing back up to 1980 levels, let alone 2000 levels, as there are enough key structural factors keeping rates down: globalisation, ageing populations and regulation"

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WHAT'S IMPACTING ASSET SERVICING: 4 MARKETS TRENDS FOR 2020

In 2019, BNP Paribas Securities Services hosted its 2019 Expo – 'Delivering the World'. The conference featured a diverse line-up of panellists, including regional leaders of LATAM exchanges such as Bolsa de Valores de Colombia and B3, and BNP Paribas experts in the field. The conference underscored the significant challenges affecting the world's markets. Here, we share four of the key markets predictions that will impact the custody industry. They are positive stories to take us into a new decade

BRAZILIAN SAVERS SHIFT AWAY FROM CASH AND BONDS

Claudio Jacob, Head of International Business Development & Client Relations, B3, the Brazilian Stock Exchange

"Brazil has witnessed a surge in 'savers' who are seeking alternatives to traditionally popular cash accounts that historically paid handsome returns due to the country's high inflationary environment. With lower interest rates and decreasing inflation, a lot of new products are coming through and we are seeing momentum shift from big banks to independent brokers and asset managers. This evolution from cash or bonds to other products – such as exchange-traded funds (ETFs) – will boost the overall sophistication of the Brazilian markets. ETFs are already becoming a growth area with assets under management doubling from BRL 12 billion in 2018 to BRL 26 billion during 2019. ETFs in Brazil only represent 3% of the volumes traded in the local stock exchange, compared to 13% in the Bolsa Mexicana de Valores or even 37% in the NYSE and therefore there is much room to grow."

COLOMBIA WILL GEAR UP FOR RENEWED INVESTOR INTEREST

Rupert James Stebbings, International Account Manager, Bolsa de Valores de Colombia

"Expect renewed investor interest in Colombia, which, despite undergoing significant shifts in its political make-up, has had a relatively tranquil economic outlook, featuring lower rates and reduced inflation. In anticipation, regulators have taken steps to streamline the markets, including transitioning to T+2, with the country's central counterparty, Cámara de Riesgo Central de Contraparte, set to oversee equities clearing and settlement. Whereas currently the market can only execute around 100,000 trades per day, the new system will be able to handle upwards of 10 million."

CHINA'S MUTUAL MARKET ACCESS SCHEMES WILL GAIN IN IMPORTANCE

Gary O'Brien, Head of Custody APAC, BNP Paribas Securities Services

"One cannot discuss Asia without talking about access to China. Making use of mutual market access schemes such as China–Hong Kong Stock Connect and Hong Kong Bond Connect will be paramount for companies looking to take advantage of recent regulatory reforms within the region. Such programmes offer investors a straight line to both the Shanghai and Shenzhen equity markets, as well as China's onshore interbank and exchange bond facilities."

INDIA WILL EXPERIENCE IMPRESSIVE GROWTH

Vivek Harlalka, Head of Sales, India, BNP Paribas Securities Services

"India is expected to deliver a nearly five-fold increase in GDP, as well as assets under management and assets under custody, through to 2030. The country's demographics tell a good part of the story; expect a near doubling in middle-class representation going forward. As the size of the working population increases and buying power improves, demand is expected to increase sequentially, particularly if the economy continues along its present course. Making it easier to do business will be key to sustaining momentum in the region. According to the World Bank, India is currently ranked 77th in terms of market accessibility; that figure is expected to improve even further by the end of the following decade. A continuation of the current leadership, which has been growth- and reform-oriented, is certainly a good thing for the markets and will help boost access to India."

SFTR: THE 'BIG BANG' OF REPORTING REQUIREMENTS

The EU's Securities Financing Transactions Regulation is meant to shine a light on the shadow banking sector. Haroun Boucheta, Head of Public Affairs, and Candice Mac Callum, Head of Transversal Solutions for Market and Financing Services at BNP Paribas Securities Services, explain how the regulation will affect the securities industry and what organisations need to do to prepare for its phased implementation

Following concerns raised by the G20 and the Financial Stability Board (FSB) on the need for enhanced transparency and reduced risk in the fast-expanding shadow banking sector, in January 2014 the European Commission published a draft regulation on the reporting and transparency of transactions known as Securities Financing Transactions (SFTs). SFTs include repurchase transactions, securities or commodities lending and securities or commodities borrowing, a buy-sell back transaction or sell-buy back transaction, and margin lending transactions.

The draft Securities Financing Transactions Regulation (SFTR) is based on the following three pillars:

1. Transparency to fund investors: UCITS (Undertakings for Collective Investments in Transferable Securities) and AIF (Alternative Investment Fund) management companies must disclose the use of SFTs to investors in their regular reports and pre-contractual documents

2. Collateral reuse: the reuse of financial instruments can only occur under a specific legal framework where the providing counterparty is duly informed about the potential risks related to reuse and has given its prior express consent

3. Transaction reporting: counterparties must report their SFTs to a European Union-approved trade repository

> **"From a data perspective, SFTR will be a complex piece of regulation for firms to implement... Market participants should already be looking at their target operating model for implementation and considering the need for the right vendor solution"**

The first two pillars are already in force. A series of delegated and implementing regulations were published in March 2019, and the third pillar is going to enter into force in the coming months according to the following timetable (depending on the type of counterparty):

- **11 April 2020**
  Reporting obligation for credit institutions and investment firms as well as all third-country regulated firms
- **11 July 2020**
  Reporting obligation for central securities depositories and central clearing counterparties
- **11 October 2020**
  Reporting obligation for all other financial counterparties
- **11 January 2021**
  Reporting obligation for all non-financial counterparties

Core reporting requirements

Both counterparties to an SFT must report the details no later than the working day following the conclusion, modification or termination of that transaction. The report must include four categories of information: counterparty data; loan and collateral data – including the Unique Trade Identifier (UTI);* margin data; and reuse data.

SFTR applies to all European 'counterparties', whether credit institutions, investment firms, fund managers or non-financial counterparties (corporates).

The key data challenges

SFTR implies some major data challenges, not least that:

- Each SFT should be reported to a trade repository. This requires a high volume of data: around 150 fields, with 62 to be matched by the trade repositories. This data will likely be fragmented – i.e. residing in different counterparties' systems – making capture in the right format to deadline a challenge.
- New data is required, such as information on collateral reuse (i.e. whether the collateral is available for reuse or has been reused with the corresponding proportion)
- The UTI is an entirely new field and data management process for the SFT industry and counterparties. Yet it will be essential not only for trade →

CURRICULUM VITAE

Candice Mac Callum

Candice Mac Callum has worked within Market and Financing Services (MFS) at BNP Paribas Securities Services since 2012. Since March 2018, she has been Head of Transversal Solutions. Prior MFS roles include Head of Regulatory Watch and Global Product Development.

Haroun Boucheta

Haroun Boucheta is Head of Public Affairs for BNP Paribas Securities Services, a role he has held since September 2018. Before joining the Group, Boucheta was a director within the Regulatory Strategy Team of Société Générale Global Banking & Investor Solutions.

THE NEXT STAGES OF SFTR

The third pillar of the Securities Financing Transactions Regulation – transaction reporting – is due to enter into force according to the following timetable:

11 APRIL 2020
Reporting obligation for credit institutions and investment firms as well as all third-country regulated firms

11 JULY 2020
Reporting obligation for central securities depositories and central clearing counterparties

11 OCTOBER 2020
Reporting obligation for all other financial counterparties

11 JANUARY 2021
Reporting obligation for all non-financial counterparties

→booking and allocation but also for reporting of collateral and lifecycle events.
- Reuse of collateral needs to be reported, including collateral pools. In the absence of a reliable solution to flag the securities within a pool of collateral, reporting counterparties will use the FSB generic formula.** The formula should be used to calculate the estimated reuse of collateral. To estimate reuse, companies will also need to calculate the total value of assets.

Next steps for reporting firms

Firms need to review data quality, especially with regard to those fields that can potentially cause pairing issues and breaks (e.g. price, values, Legal Entity Identifier). This also means that firms will need to identify all relevant data sources and ensure data consistency along the reporting chain.

Double-sided reporting will require counterparties to pre-reconcile a tremendous set of data within a pre-defined timeframe, throughout the entire trade lifecycle, in order to prevent rejection from trade repositories. Counterparties will need to align their interpretation of data and fields and set a series of tests to ensure the robustness of the workflow.

Managing exceptions with counterparties, in addition to the timing of resolution and escalation, will be critical. Reporting firms should define workflow with a clear allocation of tasks (so the right person or team will have a view of any issues and resolve these in a timely manner). Strong record-keeping and audit trails should be set up in case of legal issues and to ensure continuous operational improvement.

"Managing exceptions with counterparties will be critical. Reporting firms should define workflow with a clear allocation of tasks. Strong record-keeping and audit trails should be set up in case of legal issues and to ensure continuous operational improvement"

The benefits of a vendor solution

SFTR is a necessary piece of regulation. Yet it is fair to say that, from a data perspective, SFTR will be a complex piece of regulation for firms to implement.

In light of this complexity and the tight timescale for the transaction reporting pillar of SFTR to come into force, market participants should already be looking at their target operating model for implementation and considering the need for the right vendor solution. If used, a vendor solution should have the following features:
- UTI generation, pre-matching and submission to trade repositories, and post-trade lifecycle management
- An intuitive interface between counterparties' front-to-back systems. This is particularly helpful because data, as mentioned, will be fragmented and reside in multiple systems.
- A high level of data quality, as the reporting obligation and its related liabilities will lie with the counterparties of the SFTs Q

** Sometimes referred to as the Unique Transaction Identifier*
*** The formula can be found in paragraph 319 of the implementing measures published in March 2017 – Technical standards under SFTR and certain amendments to EMIR*

How BNP Paribas can help its clients

From an early stage, BNP Paribas Securities Services has been involved in the SFTR implementation process and in the major industry working groups. We are fully committed to supporting our clients with their SFTR reporting obligations by offering two reporting options:
- Delegated reporting, where BNP Paribas Securities Services manages all steps of the reporting process on behalf of the client by using its post-trade capabilities. When counterparties delegate reporting, they retain responsibility for the management of their relationship with the regulator and for ensuring that reports submitted on their behalf are accurate.
- Assisted reporting, where BNP Paribas Securities Services leverages a modular front-to-back solution to generate ready-to-report files (matching, enrichment, normalisation) held at the client's disposal.

BNP Paribas Securities Services is proposing these reporting solution as part of its agency lending, exclusive lending and fail coverage programmes.

"AIIB offers private sector lenders or investors the opportunity to get involved directly in the infrastructure asset class under a more attractive risk environment"
THIERRY DE LONGUEMAR, CFO, ASIAN INFRASTRUCTURE INVESTMENT BANK (P. 6)

"We wanted to bring the rigorous approach of private equity management to the area of environmental performance"
ELIZABETH SEEGER, DIRECTOR OF SUSTAINABLE INVESTING, KKR (P. 22)

"Shanghai-London Stock Connect represents one of the most important ways in which we are seeking to engage and partner with investors in China and Asia"
BRIAN SCHWIEGER, GLOBAL HEAD OF EQUITIES, SECONDARY MARKETS, LONDON STOCK EXCHANGE GROUP (P. 44)

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WITH BNP PARIBAS

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