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CIBC Mellon

Steven Wolff lays out the Canadian roadmap

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Now we're cooking

Modern life is full of pressure. Terms like 'digital revolution', 'cybercrime' and 'millennial' are part of the everyday lexicon, and minds are overloaded with stimuli and (mis)information.

Those in financial services are also living under the ever-present shadow of regulatory demand, plus the threat of disintermediation in the back office, increasingly demanding clientele and the need to keep up with technological developments.

This melting pot of concerns is nothing new, and it's not all negative, either. In this special Sibos issue of Asset Servicing Times, there is a hint of an industry reaching boiling point but taking steps to address each individual issue.

In our panel discussion, experts consider how firms should be approaching their cyber defences, and what a successful attack would really mean for the industry. Also, Becky Butcher explores the opportunities and threats brought about by artificial intelligence, while SmartStream's Christian Schiebl tackles the challenges of regulatory reporting.

I expect that all of these burdens, and more, will be discussed at Sibos this year, and perhaps new and exciting solutions will emerge.

Keep an eye out for the AST team around the conference. We look forward to catching up over a glass of wine, or two. You deserve it.

Stephanie Palmer-Derrien


Acting Editor

Asset Servicing Times




Custody Tech
Modern custodians are under more pressure than ever to compete

P12




Cross-Border Payments
SWIFT is not an organisation to rest on its laurels, says Marc Delbaere

P16



Artificial Intelligence
Should the industry embrace a helping hand, or keep a safe distance?

P24




Digital Outlook
The digital revolution is upon us, but strong leadership will see us through

P38



Canada Review
CIBC Mellon president and CEO Steven Wolf assesses Canada's banking systems, and outlines what the market must focus on to stay ahead

P08



Dodd-Frank Debate
Experts debate President Donald Trump's plans to do a "big number on Dodd-Frank", Obama's flagship post-crisis legislation

P19



Regulatory Reporting
Financial institutions are dealing with more regulatory requirements than ever before, and a big part of the challenge lies in the reporting, says Christian Schiebl

P28

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Proxy Processing
Demi Derem talks proxy processing, the SRD and shared operational models
P50



Cyber Panel
As technology has advanced, so too has the threat of cyberattack, and if financial firms put a foot wrong, they stand to lose more than money
P30




Poland Focus
Radoslaw Ignatowicz discusses Raiffeisen Bank's new operations centre
P52




AI Update
Artificial Intelligence is already a reality in daily life, and it has a place in financial services, says Matt Davey of SGSS
P42




CSD Update
Eddie Astanin explains how NSD strives to offer a global service
P58



Innovation Insight
The past decade has seen significant change in securities services, but some challenges lead to lesson learnt, says Deutsche Bank's Satvinder Singh
P46



Big Data
Arnaud Misset of Caceis explores how big data can lead to business insights
P60



ADR Insight
Investors are becoming more savvy to the withholding tax deductions on their ADRs. According to Vicky Dean of Goal Group, the answer lies in outsourcing
P56

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Evolution, data and complexity

CIBC Mellon president and CEO Steven Wolff assesses Canada's banking systems, and outlines what the market must focus on to stay ahead





As we welcome financial services leaders from around the world to Toronto for Sibos 2017, brand Canada continues to shine brightly. While Canadians are generally inclined to leave the largest portion of chest-thumping to our renowned hockey players, it's safe to say that our bankers, pension plans and other financial markets players continue to gain prominence as global leaders. Canada is a tremendous place to do business, and for that we make no apologies.

Canada offers fruitful ground for those looking to start, build or invest in businesses. To list off the obligatory statistics: according to the Organisation for Economic Co-operation and Development (OECD), Canada led the G7 in real GDP growth from 2007 through 2016, and retains the highest real GDP growth projection for 2017-18.

The Economist Intelligence Unit forecast ranks Canada as the best business environment among the G7 for 2017 to 2021, and according to KPMG's assessment, Canada has the greatest cost advantage among the G7 versus the US (14.6 percent). Canada's business world is fueled by a diverse, highly-skilled population with a world-leading level of education: among OECD countries, Canada leads the pack with more than 55 percent of residents aged 25 to 64 holding a college or university degree.

As has been the case for nearly a decade, market participants continue to take confidence from Canada's stable financial sector, robust market infrastructure, efficient settlement mechanisms, effective prudential regulatory environment and, of course, Canada's status as one of the few remaining triple-A rated sovereigns.

Our five large banks continue to perform strongly among global rankings for safety and stability, and are global leaders in risk management. This has not held them back from embracing emerging trends and technologies. For example, CIBC Mellon's Canadian parent company CIBC recently joined BNY Mellon and other major banks in the UBS-led 'Utility Settlement Coin' initiative that seeks to leverage blockchain technology to facilitate risk mitigation and enhance efficiency through trade clearance and settlement.

In terms of unapologetic global leadership, Canada's large pension plans are taking on an increasingly prominent role in the global investment community. Canadian plans are leveraging their large capital pools and long investment horizons to drive an array of innovative investment activities. Plans are expanding globally and domestically across an array of asset classes, and opening up investment offices around the world to connect with new opportunities.

The dexterity and innovation of these plans can in a large part be linked to a 'Canadian model' for pension plan management, characterised by the retention of substantial investment expertise in-house and an independent governance structure

The asset servicing industry is at an inflection point in terms of advancements in technology and data. Asset servicing providers are transforming themselves from securities processors and safe-keepers of assets into data enablers

to help insulate plans from political influence as well as shorter-term results pressures. For global investment and transaction players, the scale, sophistication and appetite of Canadian pension plans has the potential to offer a range of opportunities.

Under pressure: navigating insourcing versus outsourcing

Market participants are under enormous pressure to achieve operating efficiency, build the access and tools to support rapid evidence-based decision-making, and to maintain the necessary oversight over both in-house and outsourced functions. While firms are looking to achieve data flexibility, they are also grappling with legacy in-house processes, systems and infrastructure.

Many are looking to outsource in order to minimise long-term investment in their data platforms. As firms consider insourcing versus outsourcing they will need to consider both internal and regulatory governance requirements, as well as available internal expertise.

As has become the norm, we expect risk management to remain at the forefront, demanding effective governance, demonstrable oversight, and clear evidence of prudent decision-making.

The common reporting standard

The Government of Canada began implementing the common reporting standard (CRS) on 1 July 2017 with the first inter-jurisdictional exchange of information with other tax jurisdictions planned to take place in 2018.

Canada's Department of Finance notes that, as of 1 July 2017, Canadian financial institutions have been required to implement new account opening procedures to identify accounts held by non-residents, and will be required to report certain information to the Canada Revenue Agency (CRA).

As a Canadian financial institution, CIBC Mellon will be required to take action to implement the provisions of the CRS that are applicable to it, as set out by the CRA. CIBC Mellon will be complying with applicable CRS standards and relevant regulatory requirements.

A new era of data

Even as providers continue to connect domestic and global players, the asset servicing industry is at an inflection point in terms of advancements in technology and data. Asset servicing providers are transforming themselves from securities processors and safe-keepers of assets into data enablers.

Providers must continue to deliver dependable execution and confidence, while also working to empower clients with flexible access to data. Historically, clients have looked to their providers to create tailored reports, but the focus is now shifting to empowering clients to pull data when they want, in the format they want, and to integrate data across internal and external functions.

Responding to evolving technology change

Institutional investors expect their asset servicing providers to leverage new technology to drive continuous improvement. However, new solutions must be thoughtfully and securely deployed. Even amid a technology environment that enables rapid change, providers must at all times provide necessary assurances, trust and confidence.

In Canada, as in other markets, significant focus has been directed to the area of vendor management and oversight. Firms of all types are emphasising core capabilities and outsourcing an array of technology and operational processes.

This has the potential to create multiple levels of vendor outsourcing and interconnectivity, increasing complexity even as outsourcers gain

scale and efficiency. Outsourcing providers like asset servicers must work collaboratively with their clients to deliver the necessary tools and reporting to support oversight and governance. In keeping with this, Canadian regulators are highlighting the area of outsourcing in recent years. Market participants domestic and global will be well-served by selecting an asset servicing provider or sub-custodian with the local perspective to navigate the requirements and deliver the tools to support efficient, effective oversight.

In addition to complexity and governance needs, technology also brings the ever-evolving risk of cyber threats. Market participants need to make the necessary investments in people, systems and processes to appropriately monitor the IT environment internally and externally for potential risks and appropriate yet rapid response. As demands increase for information to be available yet well-secured, the focus on cyber-risk will no doubt continue to gain importance. Look for your asset servicing provider or local sub-custodian to provide the necessary information to support governance and oversight, while balancing the necessary confidentiality regarding the specific steps taken.

Engaging employees around innovation

Of all the investments necessary to support clients in navigating data, technology and market complexity challenges, one of the most important investments is into people. Clients are looking for their suppliers' service teams to provide specialised insights, deliver consultative service, and proactively surface opportunities to help clients achieve their goals. Firms must take steps to build and reinforce an employee culture that is engaged, insightful and thoughtful around putting clients at the centre.

For example, as part of our efforts to drive an innovation culture, CIBC Mellon launched a Business Innovation Hub in collaboration with Ryerson University in Toronto. During a four-month term, five employees and five students brought their talents, experiences and enthusiasm to help create leading-edge solutions in a controlled manner, while thinking about our business in new ways. The group's aim was to further enhance accuracy and operational efficiency, and leverage fresh ideas for doing business, to help unlock great potential and advance our client experience.

Robotics, a 'good jobs' strategy

Looking ahead, we can expect the march of technology change to continue, not only around mitigation of cyber risk, process improvement and supporting data availability, but also in areas such as data management, workflow design and artificial intelligence. For example, robotics in asset servicing focuses on automating data connectivity systems while enabling processing or logic as data and transactions flow. Robotics applications have powerful potential—not only in support of efficiency, but also in its impact on people.

While some may point to risks related to job displacement, we see robotics as a 'good jobs' strategy. Asset servicing providers have a long history of driving efficiency through automation and, in turn, moving employees up the value chain in delivering client service. The tasks most suitable for robotic applications tend to be repetitive, transactional activities, rather than more engaging, higher-value tasks that require strong human judgement. For CIBC Mellon and others, this dovetails well with a people strategy focused on engaging talented employees to deliver greater value for clients.

With the right investments in technology, training and culture, robotics and other automations have the potential to drive a better experience for clients and employees alike.

Confidence, stability and strength

In Canada we enjoy advantages that position us well such as a prudential regulatory environment built around ongoing dialogue, and robust and mature financial markets.

CIBC Mellon is at the forefront of the shift to data transparency, transforming itself from an asset serving provider to a data manager, helping to support clients' data and governance needs in Canada.

Most importantly, we continue to invest in an employee culture focused on innovation, collaboration and client-forward service. Our team is working hard to embrace and integrate emerging technologies as appropriate for our business, and we are very much looking forward to the future as ongoing investments into technology and people help make the difference for our clients. The future is bright indeed. **AST**

CIBC Mellon is at the forefront of the shift to data transparency, transforming itself from an asset serving provider to a data manager

Steven Wolff, president and CEO, CIBC Mellon





Keeping up with the custodians

As if the regulatory environment, cyber threats and cost challenges weren't enough, custodians are also under more pressure than ever to compete

Stephanie Palmer-Derrien reports

Along with the rest of the financial world, the custody business is in flux. The oft-cited challenges of regulation, cyber threats and cost constraints have brought unprecedented pressure to an industry used to trundling along at its own pace. And, on top of this, custodians are facing more scrutiny than ever from their clients, and must keep up with competitors if they're going to stay in the game.

In June, BNP Paribas and Tabb Group released a report, *Safekeeping Empowered: Reimagining the US Custody Business*, which noted that traditional custodians retain a certain image of being "pillared institutions vaulting securities, collecting income and calculating net asset values for funds".

However, the modern custodian, the report argued, is in fact more of a technology-focused institution, and should be adopting and developing new means of attracting and retaining assets, lest they submit "to the perception".

Francis Jackson, head of global client coverage at RBC Investor & Treasury Services, notes that, while custodians are managing their own new regulatory demands, they also have to cope with the demands from clients trying to stay abreast of their own regulatory obligations and market trends.

He adds that there are also changing perceptions around outsourcing, "with service providers moving further up the value chain of their clients".

Jackson says: "As custodians, our role is to help clients understand how new pressure and new technologies are shaping the industry. We need to recognise that clients face pressure on fees and returns, investing in the appropriate areas that support client growth."

And these clients are only becoming more clamorous, with their own cost pressures meaning they expect better services for their buck.

Bruno Campenon, head of the financial intermediaries and corporates client line at BNP Paribas, observes: "The angle has shifted to a situation where clients are asking what technology custodians have to offer, and how it can help them."

"Clients are struggling with regulatory requirements, particularly with adapting their infrastructures around those requirements."

This has led to changes in the balance between off-the-shelf and bespoke solutions, with the focus shifting further towards tailored services. While custodians may see a cost benefit from providing more automated services, clients are demanding more personalised features and a more individual approach to customer services.

Indeed, in the Tabb Group survey, customer services emerged as the top priority when selecting a new custodian, alongside value for fees, with both selected as the most important consideration by 18 percent.

These were closely followed by operational expertise, considered most important by 16 percent, while technology offerings came in only at fourth, selected by 14 percent.



Campenon says: “We need to think about industrialisation from a cost angle, but we need a different angle for more bespoke services, providing specific types of reports and specific access to information.”

“We are shifting to a mix of commoditisation and bespoke services, to add value to our clients and the clients of our clients.”

Jackson adds that asset managers are increasingly turning to providers for “enhanced capabilities”.

“In addition to the custody and fund administration services that we tailor to each of our clients, we are able to draw on our deep regulatory expertise and resources to monitor and provide them with insights into how forthcoming regulation will impact their middle and back-office operations.”

“While much of the traditional activities of custodians have become commoditised in recent years and many clients are looking for omnibus services to assist with regulatory requirements, there is still great scope to provide personalisation through the quality of the relationship and the service delivery.”

However, such provisions will require investment from the custodians, and these costs are likely to be passed to the clients, who will be unimpressed, to say the least, to see their fees on the up.

Campenon says: “It’s a bit of a stretch, because of the costs, but it’s also an opportunity. We have a tremendous amount of information available, it’s a matter of finding the right way to use that to the benefit of our client and their clients.”

He adds that this investment may be necessary anyway, simply to stay in tune with the movement of the rest of the market. Focusing on one solution, simply to find that market trends have gone in another direction, could be damaging.

“We need to make sure we’re not working on something completely different to what the rest of the market is working on. We don’t want to end up in isolation.”

Equally, RBC’s focus is on collaboration in order to remain competitive, and to adapt to the “changing operating environment”, Jackson says.

However, he notes: “At the same time, we also need to continue to invest in our people, helping them to understand changing working practices, training them with new skills and empowering them to dedicate more time to high-value tasks. It’s all about becoming more agile and collaborative in order to better service our clients.”

The survey asked clients what they wanted their custodians to invest in in 2017. The top priorities emerged as cloud computing and digital identity, with distributed ledger technology (DLT) and AI coming in third and fourth place, respectively, and big data and cybersecurity trailing relatively low on the bottom of the priority list. However, with regards to the technologies respondents think will have the greatest effect on operational efficiency, blockchain, or DLT, emerged as the biggest potential gamechanger over the next year, named by 33 percent, followed by regulatory technology, named by 27 percent. Big data analytics, again, is not considered to be a big factor in the near-term, with no respondents at all considering it to have an effect on efficiency within the next year.

Demand for automation is likely to lead to consolidation in the industry, or to some custodians exiting the space altogether.

A huge 80 percent of survey respondents said they think there will be fewer custodians in the market in three years' time

However, looking ahead five years, the picture is starkly different, with blockchain, regtech and big data analytics named the most impactful technology by 33 percent of respondents apiece.

Jackson agrees that there will be an increasing focus on big data, which he says “has the potential to transform the custody and fund administration space and provide asset managers with meaningful insights for their own clients”.

He says: “Reams of client data is produced, but it is of little use unless insights and opportunities can be gleaned from it.”

RBC I&TS is therefore working on improving its data management capabilities, with a view to helping clients improve their distribution services, manage client assets, and “ultimately manage risk and cost more efficiently”.

Campenon, on the other hand, considers blockchain “more interesting”. Regtech is a necessity, and will therefore continue to grow, he says, and improving technology will only aid the development of big data capabilities, but blockchain is a more “compelling case”. Although the survey results suggest the industry anticipates efficiency gains from blockchain in both the near- and long-term, Campenon suggests that development is not currently particularly evident in the market, in real terms.

He says: “I trust that firms are using blockchain, and familiarising themselves with what they can do with it, to ensure they don’t miss the trend, but it can appear that it is not evolving at all.”

“In five years’ time, we will have more detail around what can be done, more examples of what’s happening in the market infrastructures, and more experience in what works and what doesn’t.”

“I’m hoping that at that point it will be more representative in terms of technology in the market.”

He adds: “I’m not surprised that blockchain remains a high priority, but I am surprised it’s not more progressive.”

Jackson, on the other hand, has doubts that, even in five years’ time, blockchain will be developed enough to offer a feasible solution either for custodians or their clients.

He says: “Much has been said about what it can achieve, but there are question marks over the ability of disruptive technologies to achieve the desired operational efficiency and effective risk management that custodians and their clients demand, for at least another five to ten years.”

In the custody industry, as in every industry, the world is undoubtedly changing, and ever-more demanding clients expect their providers to keep up.

The US’s recent move to a T+2 settlement cycle has been a long time coming, and firms were prepared, however the Tabb Group report suggests there’s a feeling in the industry that “it’s only a matter of time until T+1 is mandated”.

This expectation, along with existing regulatory restraints, means there is even more pressure to come. The report says: “Automation of manual processing has always been an objective of financial services firms.”

“However, our research indicates that it is now more critical than ever if compliance with regulation such as T+1 and reduction in costs are ever going to truly happen.”

This demand for automation is likely to lead to consolidation in the industry, or to some custodians exiting the space altogether.

A huge 80 percent of survey respondents said they think there will be fewer custodians in the market in three years’ time. The other 20 percent say they think the numbers will remain the same.

Ultimately, on top of—and perhaps because of—regulatory obligations and pressure to invest in technology infrastructures, Campenon suggests that “banks need to become global in order to survive in the custody space”.

He says: “When a custodian has clients coming from a specific jurisdiction, it needs to abide by the rules of that jurisdiction. Custodians can no longer be niche players, choosing to be either local or regional.”

“Pure local custodians that don’t have a global custody capability will find themselves short of global and comprehensive solutions to match clients’ expectations.” [AST](#)

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Going global

Its Global Payment Initiative serves to benefit banks and their corporate clients alike, but SWIFT is not an organisation to rest on its laurels, says Marc Delbaere, head of corporates and supply chain

Stephanie Palmer-Derrien reports

Can you tell me a bit about Swift's global payments initiative, as it applies to corporates?

The SWIFT Global Payments Initiative (SWIFTgpi) is all about improving the level of service across the chain for international payments. We started in the inter-bank space, introducing common service level agreements to raise the bar in correspondent banking practices and, by raising the bar, to apply some level of peer pressure. By documenting better levels of service we got a vast number of banks to adhere to the levels set.

The beneficiaries of the whole initiative are, on the one hand, the bank's themselves—if we can make the whole system more efficient, the banking industry becomes stronger, and is more protected against new entrants. On the other hand, corporates benefit for the same reason. If the banks are increasing their levels of service to each other, through gpi, they should be able to offer a better end service to their corporate customers, too.

Focusing specifically on corporates, one of the key features of SWIFTgpi is end-to-end tracking of international payments. Currently, when making international payments, corporates are a bit in the dark with regards to what's happening after they push the send button.

The payment goes off into the ether, and they have to hope everything runs smoothly. That was something that had to be addressed.

Providing that feedback loop and end-to-end visibility on these payments for the benefit of the international companies sending international payments is very important.

Another major thing is the multi-bank experience. We have this improvement in correspondent banking, which helps make banking more relevant for corporates. But, the other thing that is close to my heart is providing ways for our core corporate client base, which is multi-bank corporates, to work more efficiently. That comes from banks providing a common experience and common standards, and that alignment is where we're focusing our efforts from a corporate point of view. It's an ongoing effort, but we are getting a lot of interest from corporates and a lot of alignment on their expressed needs.

The banks are willing to listen to them in a common way, and the vendors are willing to work with them to provide solutions and improve features they already have. It's a perfect storm of alignment, and it's something quite exciting.

Does SWIFTgpi improve payment security?

It depends on what you mean by security. It can definitely have an impact on fraud prevention, for example. If a firm realises a payment

may have been made incorrectly, perhaps because someone has imitated the voice of a CEO or CFO, and lured an accredited operator into making a fraudulent payment, then gpi can help.

In a world with no feedback loops it's difficult to address that issue. When you have feedback loops and you can see where the payment is, it's much easier to contact parties down the line and to do something about it. As part of the gpi roadmap, we are also looking at productising a 'stop payment' feature to address exactly this kind of situation.

Are you seeing demand for faster cross-border payments, or does slower banking mean more security?

There is an element that slower banking is more secure, as it gives you more time to address situations such as the CEO fraud that we talked about. At the same time, this topic is important and we have done a lot of research into the demand for faster payments among corporates.

We have found that there is some appetite—speed is seen as a useful thing. However, if we're talking about priorities, the story is slightly different. There is less of a willingness to invest in faster payments, compared to other things that are considered to be more useful. In particular, the traceability aspect, having instant information and predictability around the payment, is typically higher on the priority list.

If a treasurer has to send a payment a day earlier, but knows it's going to go smoothly and that they're not going to have to conduct any expensive investigations, that's acceptable. They're losing one day of interest rates, but in the current climate that's not dramatic, and considering operational costs of managing exceptions and so on, transparency is much more of a priority than pure speed of payment.

How important are global messaging standards to cross-border payment operations?

They're absolutely critical; they're a fundamental building block in making payments happen. Everything we're doing with the SWIFTgpi is focused around doing things in common ways, such as providing an industry-wide common tracking reference.

So, financial messaging standards are fundamental, because if you're passing a reference on, for example, you need to be absolutely clear in what it is, how it's structured, when you need to include it and when you shouldn't. These things need to be absolutely rock solid so that everything can work in straight-through processing mode.

Corporates, and in particular multi-bank corporates, want to be able to deal with those banks in a common way. They want to send payments in a common way, to receive payments in a common way, have a common channel, common formats, common standards and common market practice.

We're working very closely with the banks, corporates and vendors in that space, and we want to make sure that when one bank tells a corporate about, for example, a final payment delivery, it's in exactly the same format as it would be coming from a completely different bank. These messages need to be common, and that means common standards.

What could technologies such as DLT bring to this space?

It's very interesting technology that we're looking at closely. We have a promising proof-of-concept in place regarding nostro reconciliation. That's a good fit for blockchain, because of the nature of the distributed ledger technology (DLT).

At the moment, we're monitoring the advance of the technology, and we believe it's starting to be fit for purpose in some use cases, but not for everything yet.

When any technology matures it can be used to replace other things and it will be incorporated into business processes. At Swift, we're focusing on making those processes work, and when the technology is at a level where it can be fully utilised, we will incorporate it into our story. At the moment, it's not ready. Of course, there will be players trying to use this technology for disruptive purposes, which is fair, and they may have some success, but it's not something we are particularly worried about.

We will certainly keep an eye on the evolution of the technology and to make sure we fully understand the possibilities it holds. **AST**

There will be players trying to use this technology for disruptive purposes, which is fair, and they may have some success, but it's not something we are particularly worried about

Marc Delbaere, head of corporates and supply chain, SWIFT



Roll back or roll on?

Donald Trump's presidency has caused all kinds of controversy, but what about his plans for banking regulation? Experts debate his plans to do a "big number on Dodd-Frank", Obama's flagship post-crisis legislation

Stanley Fischer, vice chair of the Federal Reserve, has described Trump's plans to roll back the Dodd-Frank Act as 'dangerous' for the financial system. Is he right?



Jenna Lomax reports

Bhawana Khurana
Vice president at client solutions
Smart Cube

The vice-chair of the Federal Reserve is getting a lot of market support for boldly describing any Dodd-Frank Act rollback efforts as dangerous. The recent strong financial performance of large banks has further convinced many in the industry that the Dodd-Frank Act has not been crippling banks as much as previously believed. Even for smaller banks, many argue that the slowdown in their growth can be convincingly attributed to technological changes (favouring large banks) and other long-term industry trends, rather than the implementation of Dodd-Frank.

We believe that the argument favouring the rollback of the act is certainly losing ground. Now the treasury department is also riding

on a similar sentiment, given the modest and practical tone of its first recommendation report (released on 12 June 2017), which advocates ways to re-calibrate and tailor the act based on size, risk, and cost/benefit analysis, instead of a full-blown repeal of many of its requirements.

Well-structured regulation for the US financial system is certainly the answer everyone is looking for. Whether we will get that is something that will become clearer with the treasury department's subsequent reports, which aim to cover capital markets, asset management, insurance, and non-bank financial institutions, including fintechs, in the coming months.



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Paul Burleton
Head of strategy, regulatory, risk and compliance
GFT

Despite President Trump's bold promise to "do a big number on Dodd-Frank", there is still no clear way forward for regulatory reform in the US. The US Treasury paper published in June has given us a better understanding of the direction of travel, but there is still much to debate. The Volcker rule has been the subject of such debate since its introduction and there is validity in the argument that it is hurting smaller financial instruments and restricting market making activities.

Removing it completely would undermine the principle that banks protected by the Federal Reserve should not engage in speculative trading for their own account and, sensibly, the report does not propose this drastic step.

The other main area of debate is on the capital requirements. Here, many argue that the Dodd-Frank rules and subsequent amendments have made them overly complicated and restrictive. This is where Fischer has a point. Although very few would agree with his statement that "everybody wants to go back to the status-quo before the great financial crisis", the US Treasury report is inconclusive on whether the Basel accord would continue to be followed, stating that the regime needs to "meet the needs of the US financial system and the American people".

Clearly US banks feel constrained under the current environment, but they need to be held to equivalent standards as their international counterparts.

Fischer's comments serve as a warning shot across the bows of Congress and the regulators alike. As ever, the regulatory reform road is long and winding, but it now seems that most are on board for the ride.

Gabriel Dusil
Co-founder of blockchain technology incubator
Adel

If generals are accused of planning for the last war, then regulators are criticised for writing laws that prevent a repeat of the previous market crash. They fail to classify instability brewing in current financial systems, and anticipate their outcome. Dodd-Frank was the US Government's response to preventing the collapse of banks that were 'too-big-to-fail'. It doesn't, however, take into account fintech innovation, particularly in the rapidly evolving arena of blockchain, which continues to disrupt financial services.

Although banks are acknowledging the need to innovate and adopt new technologies, they are under threat of becoming peer providers of infrastructure—layers removed from the applications and services that customers need.

Fundraising is taking place outside capital markets of financial institutions, being executed through initial coin offerings (ICOs) and token sales free from regulations. ICOs have already raised more than \$1.3 billion in 2017, according to Venture Beat.

Cryptocurrency will soon become an over-the-top service, similar to how video streaming disrupted the entertainment industry, and peer-to-peer technology disrupted communications.

Stanley Fischer is undoubtedly right in saying that repealing Dodd-Frank is dangerous, as past abuses could be replicated. As the first ever successful anti-money laundering/counter terrorism financing/know-your-client compliant ICO in the world, blockchain incubator Adel believes the real issue resides with regulatory procrastination of an unregulated ICO market.

Jim Myers

Senior manager for trading risk management
Sapient Consulting

In thinking of this type of question I like to go to the radical extreme. If I were to snap my fingers today and say that Dodd-Frank and all of its provisions were gone, effective now, what would happen?

Would the Dow or S&P 500 crash? No, both would rally, financial firms most of all. Would the VIX spike? No, in fact, it would likely fall. Would global financial markets be in more danger? Not today, but maybe in the future, though the price of assets would not reflect increased uncertainty.

Dodd-Frank did a relatively good job at trying to insulate the world from one type of market risk—essentially a few large financial firms run amok, making bad bets and becoming unable to meet their financial obligations. From that one specific risk factor, Dodd-Frank brought onto the smaller firms that did not run amok (like those select few) a bunch of new regulatory obligations. These cost time, money and staff bandwidth.

That's not to say that Dodd-Frank did not do any good. I like some of what's happened in over-the-counter derivatives, but usefulness has been limited, due to variability in implementation across national jurisdictions. Some wise person once said something along the lines that government regulation is good at creating regulation for the last crisis, but not nearly as effective at looking ahead.

I would advocate a risk-based cost benefit analysis on any actual modification of Dodd-Frank. Incidentally, my comments are exclusive to Dodd-Frank and not the Consumer Protection Act, which I like, but which is more akin to protecting consumers from an oligopoly of financial firms looking to make incremental revenue at all costs.

Larry Tabb

Founder and research chairman
Tabb Group

Rollback can mean many things and, depending, Fischer could be right or wrong. Completely rolling back Dodd-Frank is not only a mistake, but few even want this to occur. While banks would like fewer stress tests, they don't want them to be eliminated.

Similarly, the swaps trading mandate has pushed investors into non-standardised products just to keep them off a swaps execution facility. However, few believe that we should eliminate the clearing mandate.

While Dodd-Frank instilled a more rigorous regulatory environment, the level of compliance and oversight has been an anchor not only weighing down the financial sector but slowing economic growth by hampering lending and curtailing market liquidity. While 40-times leverage may be too much, at the levels of interest rates we have experienced over the past decade, 12- to 15-times leverage may be too low.

Many banks, and increasingly even regulators, are also complaining about the Volcker Rule and its overly harsh interpretation of proprietary trading. While allowing banks to proprietary trade using insured deposits may not be a good idea, proprietary trading was not implicated in the crisis and the rule has made it difficult for banks to make markets and provide liquidity.

So, while Stanley Fischer is right about a complete rollback of Dodd-Frank, few, if any, are calling for a complete rollback. If, however, we want our economy to grow, capital to be appropriately allocated, and risk to be shifted from risk-averse corporations to those more desirous, a rethinking and reshaping of Dodd-Frank is certainly in order.

Eric Litvack
Head of regulatory strategy
Societe Generale Global Banking and Investor Solutions

I don't think that one should frame the debate in terms of a 'rollback' of the regulatory framework. Certainly we are not in favour of repealing or weakening the regulatory framework. A lot of work has gone into implementing Dodd-Frank and similar financial regulatory reform elsewhere, and the financial system is much safer than it was as a result.

But, 10 years after the financial crisis, and after wide-sweeping reform of all aspects of financial regulation, it does make sense to review and assess the regulatory landscape. As is the case with many new regulations, the initial rollout of any framework is usually not perfect or all-encompassing, and this is certainly the case for the 800-or-so pages of Dodd-Frank.

After all, securities regulations date back to the 1930s, but they're still regularly reviewed and improved. There is scope to streamline and simplify certain requirements to remove needless complexity—complexity that imposes a hefty compliance burden on intermediaries and end users for little benefit.

It's important that these firms can access financial markets and financial services in as cost-effective and efficient a way as possible, with an eye on ensuring that regulation supports sustainable economic growth. The European Commission started the review effort two years ago with its capital markets union action plan and its review of existing regulation.

A similar review of the Dodd-Frank framework is timely and healthy, which is why the Commodity Futures Trading Commission's Project KISS and the Treasury's review of financial market regulation are so important.

Henry Balani
Global head of strategic affairs
Accuity and Fircosoft

Bank regulation is key to protecting the financial system from abuse. Critics have, however, argued that over-regulation can lead to reduced innovation and effectiveness of the financial system, potentially limiting economic growth. Understandably, there is a variety of opinion on the effectiveness of regulation.

The key point to consider here is the promise of Dodd-Frank. This regulation has been positioned as protecting consumers from abusive bank lending and mortgage practices in the wake of the 2008 financial crisis. Another key aspect is the increase in capital and liquidity requirements, strengthening banks' balance sheets.

The third key provision is the Volcker rule, limiting proprietary trading. Proponents for rolling back the Dodd-Frank Act argue that regulations have held back bank lending. The data, however, shows that this is in fact not the case, with bank lending increasing since 2013 as the US economy recovered.

Even lending to small businesses (another key argument for rolling back Dodd-Frank) has not been a limiting factor. However, there is certainly room for tweaking the Dodd-Frank Act. Interestingly, bankers have supported the Volcker rule, agreeing that excessive proprietary trading represents a risk to their balance sheets.

A key request is reducing the cost of complying with regulations, which in turn would lower costs for consumers. Ultimately, wholesale rolling back of the regulation is dangerous, as US banks have benefitted by becoming stronger compared to their European peers, and are potentially in a better position to withstand the next economic crisis. **AST**



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Friend or foe?

AI and machine learning technology is here to stay, but should the financial industry embrace a super-efficient helping hand, or keep it at a safe distance?

Becky Butcher reports

In a fast-paced world of ever-expanding technology, the financial services industry has come head on with plenty of challenges, but also with opportunities to innovate.

Through various events, surveys and discussion papers, industry participants have long been discussing a full implementation of artificial intelligence and machine learning technology within their back-office businesses, yet still there is no certain timeframe as to when it will actually happen.

While there are companies that have already started using these new technologies, it is becoming more important for others to jump on board if they're to remain competitive and innovate.

According to PwC's 2016 Global Data and Analytics Survey, two thirds of US financial services respondents said they're not currently ready to rely on machines, because they're limited by operations, regulations, budgets or resource limitations.

Mark John, head of product and business development for Pershing and broker-dealer services for Europe for BNY Mellon suggests that, so far, there has not been too much disruption, claiming that AI has been more of a "distraction than a real disruption".

John says: "AI is perceived as a threat to the role of humans in standardised processes, these same processes that are the current core of middle- and back-office functions. As the industry invests into exploratory technology, proof of concepts will become clearer."

Currently, there is no clear path showing how this new technology will be fully implemented, as it still needs to be developed and challenged. One of the biggest challenges facing the financial services industry, in particular, will be a cultural one.

John comments: "This is a huge shift from the processes that have developed over the years."

He adds that the crux of the matter lies in "accepting that a decision-making process can be made by a machine, and not a human or collection of humans".

The biggest disruption would be the removal of the art of debate, replacing it with a single consciousness to decide on the best possible outcomes."

There has, however, been some positive commentary from companies already using artificial intelligence technologies. Umar Farooq, head of channels, analytics and innovation at J.P. Morgan Treasury Services, suggests that, so far, machine learning is "enhancing current processes".



Farooq says: “Most machine learning applications in financial services are enhancing current processes and enabling banks to increase growth, drive expense efficiencies and manage risk.”

The word ‘disruption’ tends to suggest a negative impact, but Farooq argues that at J.P. Morgan, disruption is seen as “mostly a positive for banks and clients”.

Another concern around AI often cited in the financial services industry is around not only the role of the human, but the disintermediation of whole sector players. According to Farooq, it is hard to know which players in the industry will become disintermediated because of new technologies.

Again, at this point there little knowledge around how this will play out in financial services. However, for now Farooq explains that middle- and back-office functions have been successful in utilising machine learning and robotics within existing functionalities, rather than replacing them altogether, which points towards a positive future.

He explains: “All types of players, including financial institutions, industry utilities, infrastructure providers, and so on, are actively investing in and investigating new emerging technologies to understand the impact to their business model.”

He adds: “Many of these firms will be able to evolve their business models to take advantage of these new technologies.”

As the future effects of AI development are currently so unknown, as with all technological advancements it is hard to say whether the disruption will ultimately be positive or negative.

John suggests that it is the purpose in which a technology is used that makes it a good thing or not. He notes that governance, and the ways in which AI is applied, will also play a big role in how it affects the industry.

He says: “It is true that repetitive tasks can be replaced by automated functions and history has proven that. The industrial revolutions over the past few hundred years have given way to the rise of factories, to automation, to the digital age.”

“We are now looking to the fourth industrial revolution, where financial process automation will be enhanced by robotics and AI, and underpinned by nano-technology. But, like the factories, our industry will still be managed by people.”

“Controls, quality checks and maintenance are still human tasks. I don’t see that going away anytime in the near future,” he adds.

Although there is a lot of talk and hype around AI and machine learning, how close is the industry to actually utilising these technologies?

Farooq suggests that, in the financial services industry at least, AI is still “several years away from becoming reality”.

AI could help with identifying repetitive matching errors or fails by applying automated resolution and corrective actions, therefore helping firms comply with regulations such as the CSDR

However, he explains that big data analytics and machine learning are actively being utilised in a range of areas, from the front office to functions such as fraud screening.

He says: “Automation, or robotics, is also being increasingly used by banks, but it is more prevalent in middle- and back-office functions with manual and repeatable tasks.”

There is currently significant investment going into developing standardisation and automation, as John explains: “The concept goes beyond ‘glorified automation’ as AI seeks to determine certain patterns and makes a logical conclusion from that.”

He says: “When a decision needs to be made, that is when AI comes into the forefront. Analysing a collection of data and historical analytics, as well as looking into causes and resulting effects of a range of past scenarios, can help any fall-out from an already automated process.”

As an example, he suggests that AI could help with identifying repetitive matching errors or fails by applying automated resolution and corrective actions, therefore helping firms comply with regulations such as the Central Securities Depository Regulation.

Some organisations are already seeing success with machine learning, which should give others in the industry confidence around the benefits AI could bring to the table.

The financial services industry needs to ensure the process is not “over complicated” or affecting clients, explains Farooq. He stresses that client experience “has to be at the top banks’ minds at all times”.

“We should not engage in innovation for innovation’s sake,” he says. “It should be a means to an end.”

Rob Palatnick, chief technology architect at the Depository Trust & Clearing Corporation (DTCC), suggests that every financial firm that wants to remain competitive is looking to improve the way it meets its clients’ needs.

Palatnick emphasises that AI is “certainly one of the emerging tools that should be considered, albeit judiciously”.

He explains: “A proper risk-based approach focusing on the client and considering the management, monitoring and support for failover when the automation fails (with manual support available on demand) must be part of the initial design and basic fabric of any intelligence or data-based automation effort.”

Although there is confidence that AI and machine learning will lead to a positive outcome, John suggests the industry should err on the side of caution.

He notes: “The main thing we need to be wary of is the knowledge gap between years of human experience and controls that have been put in place and developed over the years.”

Many of the lessons learnt in the industry have been gained from the “cyclical nature of our business,” he explains.

“We have learnt from past experience in resolving unknown situations and how to apply similar judgements or decisions to help us with future similar situations.”

“A machine can only apply an assessment of what it has learnt like-for-like. Machine learning in that context will still need input from separate experiences and sources to enable analysis and comparison against statistical data.”

In the medium term, John predicts that there will be more of a collaboration of human experience and technology as AI and machine learning mature, rather than an outright replacement of human resources.

However, over a longer period of time, he says: “I would see greater reduction in reliance on middle- and back-office staff, but the pitfall would be placing too much faith too soon in a process that does not have the luxury of being able to challenge from different perspectives such as emotional issues, risk appetite, past experience, and so on.” [AST](#)



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Regulation overload

Financial institutions are dealing with more regulatory requirements than ever before, and a large part of the challenge lies in the reporting, according to Christian Schiebl of SmartStream

Mark Dugdale reports

How much are regulatory requirements, such as position reporting and maintaining liquidity, dominating financial institutions' days?

Financial institutions have dealt with reporting requirements around their liquidity positions and management for a long time. But, what has changed is the need for banks to handle their liquidity intra-day, gain the necessary visibility, and ultimately, to know their positions in real time. Regulations such as Basel III are a main driver behind this trend, but so too are market initiatives such as instant payments.

Real-time and intra-day requirements demand all parties in the chain to provide data in real time. This is not as easy as it sounds, because many parties are ill-equipped to do so.

Furthermore, handling data in real time means the control processes that are necessary to verify the accuracy and correctness of the data must also be conducted in real time, otherwise there is a risk that position calculations could be wrong, which could lead to incorrect decisions.

What are the key Basel III requirements that financial institutions are still getting to grips with?

Basel III is still being implemented at many banks. With liquidity requirements, we still see many institutions facing significant challenges when moving from end-of-day to intra-day visibility and management.

The devil is in the detail. It seems relatively straightforward, but this is not only a concern for staff handling the day-to-day monitoring

and management of positions. It's also the concern of asset liability management (ALM) departments, who traditionally have not had any focus on intra-day reporting. Many banks are still in the process of achieving compliance with the requirements stated in Principle 8 of BCBS144. There is also the gradual adoption in Europe of BCBS248 reporting, as well as intra-day stress testing, further complicating the situation.

With all of the different rules at play, how are banks handling the workload?

Many banks view each regulation in isolation, even though this was never the intention of the Basel Committee on Banking Supervision (BCBS). For instance, BCBS248 must be read and understood in the context of BCBS144. Furthermore, as BCBS248 is really a risk report, global and domestic systemically important banks must also consider the accuracy requirements of BCBS239.

The feedback we receive from supervisory authorities in countries that have already gone live with BCBS248 reporting is that our customers provide, qualitatively, the best reports. This is because the data that goes into the report is controlled, checked and reconciled, so we make sure it is of the best possible quality.

How are systems such as Corona helping?

Corona has been adopted by financial institutions worldwide—the system has more than 100,000 users. Today, it sits on top like a network, with all of the different data points feeding into it. For decades, our customers have controlled their cash accounts in Corona in order to manage their external cash positions. We were then asked by our customers to help them with their intra-day, monitoring, reporting and management needs. The main reason was that all of



the data was already in Corona. All of the quality cash positions, cash items and static data could be re-used, and additional functionality placed on top of Corona allowed other departments to re-use all of this for another purpose.

Today, you will find Corona users in reconciliation, ALM and nostro cash management departments, and in the treasury front office. Corona help banks to collaborate across the organisation between departments, business units and even legal entities within a banking group, as it is fully multi-tenanted. They are all working out of a single system and database, so there is one version of the truth, which is reconciled, and therefore of the highest possible quality.

Of course, each department has its own workspace, because they all have different requirements and need different functionalities. For instance, the ALM department will produce the BCBS248 report, conduct intra-day stress testing and produce other metrics, such as the liquidity coverage ratio. On the other hand, nostro cash managers have their workspaces and functionality that allow for optimal use of

funds within a group of accounts, that is, to handle account sweeping in the best way. Liquidity managers in the treasury front office have an integrated solution that allows them to make informed funding and investment decisions.

What more are financial institutions asking of partners such as SmartStream?

As we have customers around the globe, different concerns, aspects and timelines for implementing regulatory requirements apply. Our customers are often asking us for advice. For instance, BCBS248 was mandated in Saudi Arabia as of January 2017. Our experience from some of our clients in Europe helped our Saudi Arabian banks comply with the new requirements in a very short time period.

Now, as more and more banks in Europe are starting their intra-day and BCBS248 projects, they benefit from our experience in Saudi Arabia, which is one of the few countries in the world that has already mandated and gone live with this regulation. **AST**

Our customers provide, qualitatively, the best reports. This is because the data that goes into the report is controlled, checked and reconciled, so we make sure it is of the best possible quality

Christian Schiebl, executive vice president of the Corona business unit, SmartStream

On the line

As technology has advanced, so too has the threat of cyberattack, and if financial services firms put a foot wrong, they stand to lose more than money

Stephanie Palmer-Derrien reports

Are all financial institutions now digital companies by definition? What are the implications of this from a security point of view?

Margaret Harwood-Jones: The simple answer is yes, institutions today are digitised, albeit to different extents. There's no doubt that technology is changing the way the business operates, and that brings new challenges and threats.

For me, cybercrime is a part of that new world order and it's something that all institutions need to think about and make sure they have an adequate response to.

In terms of implications, there are a couple of things that add to the challenge of finding the right response to the risk.

Finance is very much a connected and global business, and the internet is a borderless tool for all of us, including attackers. The ecosystem in which we're operating is very complex and highly international, so that gives us a different perimeter to think about. You can't just think about your own institution. You need to think about the end-to-end service chain, including market counterparties and other third parties.

When you're faced with that industry environment, coupled with something that's developing at such a pace, the reality is a lack of harmonisation; no coherence in providing a global deterrent at scale.

In addition, and without a common legal standard of care that firms have to operate towards, the complexity is further magnified, especially for the many international firms, Standard Chartered included, that are operating across a huge number of different markets around the world.

Patrick Wheeler: To say a company today is 'digital' is a bit like saying we are air-breathing mammals.

Even if our own companies rely upon older tech, our supply chains, our customers and even our refrigerators are heavily dependant upon the digital ecosystem.

I grew up in a remote self-sufficiency farm in Northern California. We had a question for all newcomers: "Who made your axe?" We are all in this together, and we are all digital in this modern era.

Jerry Norton: The answer to the first part of the question is yes, in my opinion, but it depends on one's definition of digital.

A lot of banks now have very little physical presence or physical contact with their customers; face-to-face operations, cash, and paper documents are disappearing gradually; and more and more banks are starting up with little or no physical presence at all.

Banks are on a journey to that digital and virtual space. Some banks are further along that journey than others.

This means they're totally reliant on proper cyber protection, and they have to be aware of that protection.

That's part of the journey, and I think most banks are cognisant of the fact that they have to do this in order to protect their clients, but also to protect their reputations.

Stephen Scharf: Increasingly, financial institutions are developing a digital core. In some areas such as trading this is fairly advanced, while in other areas such as wealth management, digital capabilities are evolving at a slower pace. Any organisation that has a digital capability can be vulnerable to a cyber attack and therefore must have a strategic cybersecurity programme in place to protect it from this threat.

Rohan Amin: Financial institutions that want to remain competitive and innovative must be digital companies. The implications from a security point of view are vast, but focus on the core notion that security must more deeply integrate into the product development process.

Automation and self-service are key for scalability in a digital business. Anything that was done manually from a security standpoint, including security controls, must be automated and made easy to consume by technologists and product developers. This is key to keeping pace with the business and to ensure security is an enabler, not an inhibitor.

Do new technologies such as blockchain help to bolster security, or do they bring new threats?

Norton: New technology doesn't necessarily improve security, and it could potentially bring its own set of problems. That's not to say that blockchain is unsecure, just that, as soon as you introduce anything new, whatever it is, it brings new potential vulnerabilities.

Historically, we haven't built security into our IT systems, and there is a possibility that additions to an existing technology estate could introduce issues that we hadn't previously spotted or considered. So, the introduction of new technologies doesn't necessarily make it worse, but it doesn't make it better either. You have to consider the overall security and overall processes, including historical processes.

Blockchain will have its own security-type credentials and attributes applied to it, but that doesn't necessarily make the whole operation better. Equally, security processes and policies have nothing to do with any specific technology, per se.

Banks just have to stay one step ahead of the fraudsters, and there's a broader picture too, to introduce two- or three-factor authentication, mandate strong passwords, and so on. Does blockchain itself improve security? Not really. It has secure aspects built in, but it depends how you utilise that. There will be a tipping point. Applications built 20 years ago weren't built with cyber attacks in mind, and there wouldn't have been any encryption or strong password management. We have evolved a long way already, and if we were starting from scratch we would build that in as a matter of course, but at the moment we have a lot of old systems and we have to continue on the evolution. That's one of the key issues.

Amin: It's still early days for Blockchain, but it has great promise for the financial services industry and we're very excited about the innovation it will hopefully bring.

From a data integrity and resiliency perspective, many believe blockchain can reduce risk in these areas. That said, criminals



The potential targeting of the endpoints of the blockchain network could be a risk factor that must be closely assessed and monitored

Stephen Scharf, chief security officer at The Depository Trust & Clearing Corporation (DTCC)

and other threat actors will focus on exploiting all technology; the same principles of secure application development and strong data protection must be applied.

Scharf: The potential of blockchain technology in some areas of market structure look promising, however we are still at the very early stages of its adoption and therefore the security element of distributed ledger technology (DLT) has yet to be fully evaluated and potentially improved.

Overall, DLT has the potential to be used to improve cyber security if implemented according to certain standards. Having the appropriate resiliency and backup of systems is one of the main challenges firms face. DLT has the potential to enable firms to store data in multiple places, greatly improving system resiliency and data recoverability. This aspect of DLT is very exciting from a security perspective.

But, while it is too early to tell exactly what the cyber implications of wider adoption of DLT would be, the potential targeting of the endpoints of the blockchain network could be a risk factor that must be closely assessed and monitored.

Furthermore, a number of new cyber security solutions are emerging to help firms counter this growing risk. Many of these solutions are interesting and could significantly add to the arsenal of tools firms can use to improve their cyber resiliency. But, while new defence technologies are becoming increasingly intuitive and innovative,

there are prevention techniques that have existed for many years that should remain as fundamental components of any modern security programme.

For example, the importance of a strong identity and access management programme, ensuring appropriate patch and vulnerability management, and proper segmentation cannot be overstated. These approaches have been around for a long time and actually can provide greater cyber security to an organisation than some of the new and emerging technologies.

Wheeler: Both. But, the new threats are same as the old threats. The promise of blockchain technology currently is being held back by many poor implementations. As is often the case with new technologies, it is not the technology core that is at fault, but poor implementation and the ever-problematic human-technology interface, coupled with simple greed and fraud with flawed business models.

Having been invited to 'meet Satoshi' as part of an attempted scam being perpetrated in the financial sector, and having been asked to look after security during some not-so-small attempts, I have some rather sceptical comments for the blockchain community.

Blockchain is a very valuable addition to our technical solutions, and I remain excited by its advent and adoption, and plan to keep helping institutions to onboard it, but they really need to step up their own security game. Here, there is some very interesting work being done.



It is not the technology core that is at fault, but poor implementation and the ever-problematic human-technology interface, coupled with simple greed and fraud with flawed business models

Patrick Wheeler, director, CyberWayFinder

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Despite competitive pressures, there is robust collaboration across firms—within and across industries—on cybersecurity. It is imperative that firms are working with peers, actively sharing threat information and best practices

Rohan Amin, global chief information security officer, J.P. Morgan

Harwood-Jones: All institutions, almost without exception, want to improve efficiency and ensure that their proposition and their performance to their underlying clients is deemed best in class. These are the drivers causing all of us to look at how we're processing our business and find better ways to do that. That's encouraging service providers to embrace new and disruptive technologies, whether that's around blockchain, artificial intelligence or machine learning.

We have all experimented and some of us are now deploying those technologies in earnest. However, our experience of how they operate is still new and developing. While the industry is testing them, they operate in very contained environments, which is wholly different from being live, at which time firms become exposed to a cyber security risk.

Understanding the technology, so the risks of those technologies are also understood, is critical before rollout on a broad, potentially worldwide, basis if the risk is to be managed. New technologies bring new threats until the users are better accustomed to any new environment they create.

What's also clear, and this adds to the difficulty, is that technological innovation and the pace of that innovation is out-pacing developments in managing the cybersecurity risk. The challenge we face day-by-day in this regard is getting harder rather than easier.

What has to happen in the back office to ensure security throughout an organisation? Should firms be collaborating on this more?

Wheeler: It's about culture, not awareness. As we are all digital, we all need to become engaged in security and cyber. It is not a bastion for IT, techies or the 'cyber team'. This means that the tools, techniques and knowledge must be placed in the hands of the group that existing cyber teams have been taught is one of the largest 'problems'—the users.

There is a drumbeat for boards to adopt cyber practices, and this is correct. But, boards only become engaged when they have the tools and knowledge to make informed decisions. Recently, I was excited to see a woman appointed as CEO of a major financial services institution

who I knew had previously been overseeing the cyber teams. This level of competency is a basic must-have for all CEOs of today.

Norton: There are two aspects to this. First, a firm has to put its own house in order, with properly enforced processes and procedures, and the technology supporting that.

Secondly, it has to make sure its partners—either those it's doing business with or those that are providing a technology or a service—are clean and have their own houses in order. You're only as good as your weakest link, and a lot of people are worried about their supply chain.

Does the supplier have the same processes that I do? If not, malware could come in through that route. The supply-chain problem is a real problem for really mission-critical, highly-secure systems.

With regards to industry collaboration, there are two or three potential solutions. One is the 'high watermark' idea of trying to raise standards, and there are a lot of banking bodies that are working on this on the regulatory or pseudo-regulatory side. On the supplier side, the same thing is true. The procurement processes are demanding a lot more attention, and suppliers need to do more in the way of checks in order to prove that they are reputable.

Amin: Despite competitive pressures, there is robust collaboration across firms—within and across industries—on cybersecurity. There are multiple industry and government forums allowing firms to collaborate. It is imperative that firms are working with peers, actively sharing threat information and best practices.

Harwood-Jones: Every institution and every corporate should start by getting the basics right in their own legacy environment. That's often a challenge for large organisations where the internal structural technology is fairly complex. Managing cybersecurity risk is a business problem, not an IT problem. It is an enterprise-wide risk, so management of it should come from the top and involve all personnel throughout the organisation.

There are a lot of things to focus on, and I don't think anyone has an all-encompassing list. Start with the simple things such as making

sure firewalls are up to date, making sure there are regular anti-virus checks throughout the organisation, that there are strong rules on password protection, that email communications are properly encrypted when they need to be, and that there is segregation of personal and work devices. There is no doubt that the sharing of best practices across the industry can result in greater levels of protection from cyber criminals.

Collaboration between financial institutions as a principle is not something that's new, but a specific, stronger collaboration here, including sharing information on attacks, is another means by which we can all help each other to improve, as we improve ourselves.

There is definitely a need for cooperation at industry and regulatory levels. There must be more cooperation than we have seen up until now. There should be a full end-to-end response to the risk the industry is facing. We're seeing some encouraging signs, but we certainly need to get much better at stopping the fraudsters and the attacks without getting into an environment of over-regulation.

Scharf: Cyber-threat information sharing is a cornerstone of a robust cyber defence program. What one firm learns from its peers can be used to strengthen its defenses before an attack hits. Over the past five years, we've seen a substantial shift with regards to how information sharing is perceived amongst financial firms. In the past, firms would focus on individual efforts to improve cybersecurity efforts. Today, it has become far more collaborative.

DTCC is actively involved in a number of groups including the Financial Services Analysis and Resiliency Centre (FSARC), a not-for-profit organisation formed last year, dedicated to identifying, analysing, assessing and coordinating activities to mitigate the threats and risks of cyber attacks, which is open to entities that have been classified as critical infrastructures in the financial services sector by the US government.

The group falls under the auspices of the Financial Services Information Sharing and Analysis Centre (FS-ISAC), designed and developed by its member institutions to share timely, relevant and actionable physical and cyber security threat and incident information. Membership in FS-ISAC is open to all financial services firms.

We are also a member of Sheltered Harbour, an initiative also under the FS-ISAC umbrella developed to enhance resiliency and provide enhanced protections for financial institutions' customer accounts and data, as well as to prevent contagion that could be associated with a cyber attack on a retail banking institution.

It enables financial institutions to securely store and quickly reconstitute account information, making it available to customers, whether through a service provider or another financial institution, if an organisation is unable to recover from a cyber incident in a timely fashion. I am a member of the board at both FSARC and Sheltered Harbour.

How catastrophic could a cyberattack be for an organisation, and for the industry as a whole? Could cyber crime be the cause of the next crisis?

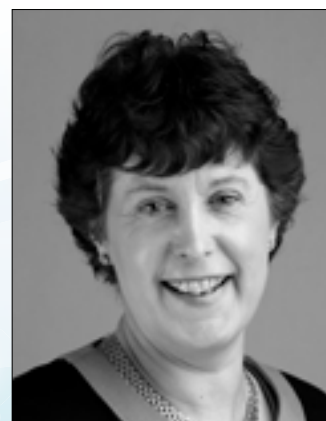
Amin: While certain events are low probability, they certainly could have catastrophic impact for an organisation and the industry. A destructive malware attack at any organisation could have ramifications beyond that organisation's boundaries. The focus shouldn't be on a single attack—it's really about confidence in the system. A series of lower-impact events could shake confidence in the financial system itself.

Scharf: The ever-growing threat of cyber attacks is particularly acute in the case of the financial services industry, due to the interconnected nature of global markets. Advances in technology and globalisation have increased the complexity of today's network. While these connections have created unprecedented levels of efficiency and risk diversification as well as other advantages, they also have the potential to amplify contagion across marketplaces globally, increasing the likelihood for a cyber attack to spread quickly through the global financial marketplace.

According to DTCC's most recent Systemic Risk Barometer, a survey that evaluates risk trends among financial institutions globally, cyber is considered as the top overall systemic risk, with 34 percent of survey respondents citing it as the single biggest risk to the global financial system and 71 percent ranking it within the top five risks. Cyber risk has been consistently cited as one of the top systemic risks by the survey respondents since the inception of the survey in 2013.

We're seeing some encouraging signs, but we certainly need to get much better at stopping the fraudsters and the attacks without getting into an environment of over-regulation

Margaret Harwood-Jones, managing director and global head of securities services, Standard Chartered Bank





There is a danger that a cyberattack could create a mass panic of withdrawals, which would have a knock-on effect on the banking system

Jerry Norton, head of strategy, CGI

Harwood-Jones: It depends on your definition of catastrophic. In 2015 the global cost of cybercrime was around \$3 trillion, and the suggestion is that this will be in excess of \$6 trillion by 2021. That could be considered a catastrophe in itself, given the resources directed at cyber security.

The consequences of an attack can be immense and far-reaching, so you need to think about the costs resulting from damage or destruction of data; the actual theft of money and the ability, or not, to recover that; the loss of productivity, during the event itself and in the immediate aftermath; theft of intellectual property; theft of personal and financial data; and the restitution period of forensic investigation. The reputational harm to the institution could be considerable, and the interactive ecosystem that sits around banking means there could be harm to the whole industry.

Wheeler: Cyber attacks run the gamut from 'game over' and catastrophic earthquakes to a shrug and ho-hum, depending on the individual company.

When we examine the hundreds of million, or even billions, lost in the financial sector due to sanctions and bad business decisions, there is a tendency to discount the impact of cyber attacks.

One of my favorite quotes from a large piece on the financial sector, was describing as company as Company1.0 pre-attack, and Company2.0 post-attack.

So, firms are definitely segmenting into categories: those who have suffered a major breach and those who will.

But, with a system built upon trust and with fault lines being inherent, a cyber attack could certainly trigger the next systemic crash.

As we are already suffering the impacts of ancillary cyber warfare (collateral damage) in the financial sector and global economy this will remain a significant risk ongoing.

There are indications of nation states 'prepping' systemic attacks to either use in a 'mutually assured destruction' deterrent (or, 'nuclear option') or simply a 'stockpile' of cyber weaponry.

Possibly more insidiously, when we examine the slowing effects of cyber and fraud, and the things we are not doing due to potential cyber attacks, we can argue that some of our slow recovery from the last crash is due to cyber effects.

My teams dealing with large data sets, new and faster payments technologies, robotics and many more are all affected by a need to secure their systems in ways that get in the way of adoption.

When we look to the future—self-driving cars, drone taxis in our urban centres, the internet of things—we simply cannot usher in the new future without handling this problem more systematically ourselves. This is not just a tech issue.

Norton: For an individual organisation, a cyber attack could be catastrophic—and we have seen very damaging things happen for non-banks.

However, it could also affect the whole sector. Banks in particular, because they are digital or virtual organisations, are very susceptible to reputational damage and to changing sentiments.

If, for example, a consumer felt a bank was not protecting their money, they could start withdrawing that money, and that can lead to a spiral of panic, with more people withdrawing their money. This can make a bank become un-viable.

Bizarrely, we've actually made that easier by becoming more digital. When Northern Rock collapsed, people were queuing around the corner to get their money out via a cheque—now they can just go online.

Regulators are worried that this could happen in a domino effect across a whole country—if someone loses confidence in one bank, they can quickly lose confidence in them all. There is a danger that a cyber attack could create a mass panic of withdrawals, which would have a knock-on effect on the banking system.

At the moment, it's not clear when and how this will end. For the foreseeable future, organisations will have to spend more and more money on this, and they're going to have to work to stay one step ahead. **AST**



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THE TIME IS NOW

The digital revolution is here, but strong leadership, clear direction and cultural change will see the industry through, says Commerzbank's Rob Scott

If I take a look back to the AST Sibos edition of 2016, I wrote about the continuing need to adapt, as well as about digitalisation, the application of new technology, costs transformation and the need for integrated solutions. I also made the following point: "The industry is at an inflection point. There needs to be strong leadership across the industry's various value chain components and participants."

Well, a year on, the core themes, largely, remain the same. Of course we need to add into the mix some of the geopolitical events that have caused some disruption and uncertainty, namely the US and European elections and Brexit. Also, we see a continuation of the digitalisation theme, with many column inches now devoted to robotics, artificial intelligence and cyber security.

I believe that my quote, in relation to the current inflection point and in the need for strong leadership, still holds as true today as it did a year ago. Many organisations are looking to redefine and simplify their products, geographies and client universe. We see many examples of businesses 'retrenching' to core specialisms, exiting complex or unprofitable products and, with the global regulatory and capital burdens, looking to further simplify and streamline their business models in order to get back to profitability and add to shareholder value.

Cost transformation

Cost remains a focus for both clients and suppliers. Many financial organisations are looking at significant and transformational cost reduction programmes. The need to adapt to the changing landscape quickly and efficiently is of paramount importance. It is well documented that the average age of most security processing platforms throughout Europe is approaching, if not exceeding, 30 years.

There is a need for cost transformation as well as the management of operational risk. In some cases, the IT developers and the maintainers of these core systems are at, or approaching, retirement age. Acting now and mitigating future problems is a very important consideration.

One way of tackling this problem is via sourcing. The business process outsourcing (BPO) sector continues to grow, according to some recent research, at a compound annual growth rate of more than 5 percent. We see this gaining traction in the post-trading securities processing landscape, where outsourcing of core settlements, corporate action processing and associated operational functions are front and centre of the areas in focus. Organisations better understand their areas of specialism and differentiation and, as a result, have considerable inertia to source those areas considered as commoditised and non-proprietary in nature. It's no wonder, given the system and personnel aging challenges mentioned earlier.

Although there exists a relatively small number of service providers, there is a degree of maturity starting to emerge with these offerings, as organisations begin to revert to their core specialisms and look for help with those functions that add an often-growing burden to processing, coupled with ongoing regulatory compliance. As providers look to unravel the sheer long-term built complexity at these large organisations, it's clear the one-size-fits-all approach, widespread standardisation and consistency in operating models, which is a prime and necessary objective for a BPO provider, does not always work.

New adopters of outsourcing are looking to streamline and simplify their existing businesses. They have a much better handle on the 'hot spots' of inefficiency and complexity, as well as transparency of costs along with areas of associated operational risk they represent.

39 PERCENT OF ALL COMPANIES EXPECT A CHANGE OF MANAGEMENT IN THE NEXT FIVE YEARS

Armed with this information, they usually come to an internal agreement of their 'core frailties' and are keen to address specific, but not necessarily all, components of this with a sourcing provider.

We also see a continuation of IT-only outsourcing as a way of managing cost and, again, addressing areas considered to have a growing operational risk as a means of containment. This puts the onus on the service provider to provide remediation of historic code and processing platforms, as well as its subsequent 'retirement' and 'system collapse', as new technologies are introduced over time. It is clear in all of this that organisations are often challenged to have sufficient transformational resources available to make all of these things happen simultaneously.

Only too often, post-trading expertise is already stretched, for example with the regulatory compliance obligations of the second Markets in Financial Instruments Directive. Having delivery certainty of change or transformation programmes is extremely important, with companies often needing to revert to external help to manage these transformations.

The industry is also starting to see joint ventures being explored, with recent examples including the Citi and UBS joint venture in the Asia Pacific region, as well as SIX SIS and Clearstream in Europe.

Where outsourcing is not a viable or preferred solution, partnering with similar, but not necessarily competing, businesses can be considered an option. In the coming years we will continue to see these partnerships and alliances forming in both areas of front-office and post-trading activities, as organisations look to leverage each other's strengths or to share the costs of growing regulatory and compliance challenges.

Those who are ahead of the game and operating with a level of maturity surrounding their control and regulatory framework, and who have multi-entity capability and authorisations are sometimes able to exploit their scalability by providing others with access to their environments. There's been an increase of white-labelling, for example, in the areas of trading platforms providing market access. This has enabled the clients to relinquish, in some cases, large cost blocks associated with direct connectivity, and membership and ongoing maintenance both systemically and in their regulatory compliance. This is an elegant way of potentially recouping some of the historic investment made, and replacing pure cost with potential access to new revenue streams from insourcing activities. This trend is likely to extend to the areas of post-trading activities, where real proprietary differentiation is often further removed.

Digitalisation

Many organisations and service providers are in various stages of digitalisation. Some organisations, where digitalisation is a core principle in future strategy and direction, are advancing very quickly. Commerzbank provides a good example here, where we are investing in a broad range of digital initiatives including the creation of a digital campus, tasked with a commitment to have 80 percent of our entire core banking processes digitalised by 2020. This vision, investment and innovation has provided a platform for positive change, benefit and access for clients throughout the bank, and we're well on track to succeed. Helping our core corporate clients transform and modernise by having access to an array of digital products, services and data more quickly will afford them the tools and information with which to make more informed decisions, optimise and structure their activities, and which will support them in their continued global or domestic growth plans.

ONE IN TWO COMPANIES SEES A NEED FOR MODERNISATION

In recent years, we've seen an increasing demand from corporate clients to have access to more integrated post-trade products and services. This need continues to gather even more momentum and commercial importance today as inefficiency in process and liquidity can lead to significant additional and unnecessary cost. Historically, a financial institution—such as an insurance company or pension fund—or a multi-national corporate with activities spanning multiple jurisdictions across the globe may have relied on multiple providers to service aspects of its post-trade activities. Whether this relates to collateral valuation, optimisation, mobilisation, asset consolidation, securities, corporate action processing or finality of settlement, access to near- or real-time digital formats that comprehensively provide sufficient detail is of huge importance.

For example, having a consolidated portal 'dashboard' incorporating all aspects of their commercial dealings can lead to considerable optimisation of activities, which in turn lead to commercial savings or better financial placement. Having an overview of, for example, cash and trade finance trading as well as execution activities—plus access to transaction confirmations, and near- or real-time status updates of collateral, assets, and reasons for fails or settlement inefficiency—serves to enable clients to make more informed commercial choices and decisions and subsequently optimise their cash and/or assets in an effective manner.

As providers, including Commerzbank, move towards increased digitalisation, pre- and post- trade information can be delivered centrally and comprehensively in a digital format, which negates the need for a whole range of manual, time-consuming and sometimes error-prone inefficient processes.

HALF OF ALL COMPANIES ARE YOUNGER THAN 30 YEARS OLD, ONE IN 10 IS ALREADY A SO-CALLED 'DIGITAL NATIVE'

Commerzbank settles around 30 percent of all German foreign trade business, so has a deep understanding of its clients and of the market. It is well advanced in developing and enhancing existing digital channels and products that serve to give clients access to a range of value-added digitalised tools they can easily connect to. The aim is to provide a level of optimisation and efficiency, enabling a client to focus on the important things that drive company growth: profitability, transparency and an increased market understanding. A recent 2017 survey by Commerzbank, conducted across circa 2,000 first-level company executives, concluded:

- One in two companies sees a need for modernisation
- 39 per cent of all companies expect a change of management in the next five years
- Half of all companies are younger than 30 years old, and one in 10 is already a so-called 'digital native'
- 15 percent of companies operate in growth markets
- Companies expect advisory services and new digital offerings from their banking partners

The need for radical and transformative change throughout most aspects of the industry and its various participants is upon us. Now, more so than ever, strong leadership and clear direction is crucial, as well as a culture to not only play a part in the evolving technological landscape, but to provide the necessary innovation to effect the next generation of banking. **AST**



Rob Scott, head of custody, collateral and clearing for corporate clients, Commerzbank

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In the blink of an AI

Artificial intelligence is already a reality in daily life, and it has a place in financial services, says Matt Davey of Societe Generale Securities Services

Stephanie Palmer-Derrien reports

What kind of issues do you think the financial services industry should be focusing on, with regards to artificial intelligence?

Artificial intelligence (AI) is a very hot topic at the moment, and there is a lot of talk about it. It encapsulates a lot of the data science and big data initiatives that firms have already been working on, but there is still a question as to what exactly it is. Are people actually using AI, or are they simply using algorithms and process automation? I think there is an interesting debate around that.

Looking at the big picture, banks are all working with legacy systems, and one of the big challenges for them is considering how far they should go in automating and improving those legacy systems, and at what point they should make the jump to a new system. These are complicated legacy infrastructures running large volumes of data, and the big prize is in figuring out how to simplify that and reduce the associated costs.

Another aspect for the large banks is the introduction of voice and image recognition systems using AI. I would question where exactly that sits. I'm not sure that our operational processes lend

themselves to AI algorithms for images, and institutional clients don't necessarily have the same application for voice recognition technologies as retail clients. It will be interesting to see how those tools can be applied to the institutional financial services industry.

Are there any AI applications ready to be applied to the back office?

There are a number of interesting AI applications that could lend themselves to the back office. One is in customer focus—looking across various systems that interface with customers in order to judge their mood. We could potentially predict when we may be likely to lose customers, based on the nature of their interactions, or we could synthesise data to alert people to a trend, which could lead to potentially cross-selling products. Being able to look across a lot of data points could be very valuable for a large bank. Financial crime is another area—pattern detection can be very effective for detecting money laundering and fraud prevention. It might not be obvious to a human being, but using machine learning we could analyse large amounts of data and identify a combination of factors that indicate a higher risk of fraud.

In the retail space, AI has been implemented through call centres and chatbots, for example, and the industry has got used to that to some extent.

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Now, that technology is being combined with large data sets and AI in order to create something with a much greater level of intelligence that is far more useful.

Finally, there is the area of regulatory compliance and risk reporting. We have a complicated risk environment and we have seen several years of increasing regulation designed to reduce risk in the industry. That's likely to be an area where machine learning is used to digest complex regulatory requirements in order to aid compliance.

Do you think there's a risk of the industry becoming over-reliant on AI technology?

My first car was an Austin Montego, which had a black box engine management system. I was driving in the Netherlands, and the car broke down. I took it to a garage, where the mechanic opened the bonnet, looked at the black box and concluded that he couldn't do anything for me because he didn't have a laptop to plug in to run a diagnostic.

That's a good analogy for the kind of issue we could run into in terms of becoming too reliant on technology. I don't think we're at that point yet, but it's certainly an issue, not just for financial services but more generally as AI becomes more embedded in our lives.

When we look at improving operational efficiency in banks, one of the things we're working on is robotic process agents (RPA). You can create a robotic agent to manage a process, and effectively lay this on top of existing IT systems in order to make them more efficient and to increase their longevity.

There is a double edge here, though, as it also fixes that IT system in its current state, making it harder to change the processes later.

Will the industry still need human interaction, no matter what happens?

This is another philosophical question that can be applied to AI generally. I see it being implemented in a role that supports human decision-making. If you look at the health and medicine industry, for example, it could be incredibly beneficial to have some form of AI to

review 70,000 journal articles that reference a particular condition, helping a physician to ultimately make a diagnosis.

Similarly, in chess, we saw brute computing power defeat grand chess masters 20 years ago. But now, if you look at 'freestyle' chess, where players can compete in any way or in any combination they like, the most successful teams are those with a combination of human and AI players.

There are some interesting examples of AI supporting humans successfully, but the interesting debate will be around how it's going to work.

Take up of blockchain technology in financial services has been slow. Is the industry ready for AI as well?

The two are quite different things. There are a few big items to resolve around blockchain—mainly confidentiality and scale—and there are teams working very hard to resolve those. There is a lot of momentum behind blockchain initiatives, but it's hard to change horses. There are large amounts of payments and assets maintained on existing systems, so you have to be very careful before making any changes to those systems. Switching to blockchain would mean a completely different way of managing transactions, so I wouldn't expect things to change very quickly. But, that's not to say it hasn't got huge potential.

AI is very different. The author William Gibson once said: 'The future is already here, it's just not very evenly distributed.'

We already have AI in a lot of aspects of our lives, whether that's self-driving cars, Siri or prevention of credit card fraud. The challenge is applying it where the business needs it. It can sometimes feel like AI is a solution looking for a problem, and in traditional systems development, the first question is always around the user requirement. What is the user trying to do? There is a danger that, with all the excitement around AI, people are forgetting that.

We need to consider the user requirement and the options that are available. The answer may well be in AI, but it may also, be something much more mundane, such as improving the interface between two systems. **AST**

We already have AI in a lot of aspects of our lives, whether that's self-driving cars, Siri or prevention of credit card fraud. The challenge is applying it where the business needs it

Matt Davey, global head of business solutions, Societe Generale Securities Services



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Making tracks

The past decade has seen significant change in securities services, but some challenges lead to lessons learnt, says Deutsche Bank's Satvinder Singh

In the 10 years since the beginning of the financial crisis, the securities services industry has been on a journey of discovery and unprecedented change, but the challenges faced—and the subsequent solutions—perhaps mean firms are better placed for a bright future.

From a macroeconomic and geopolitical perspective, certainty is still in short supply. Margins are squeezed and interest rates are low, although we may be seeing some early signs of change in that regard. In the meantime, several broad regulatory, compliance and infrastructure initiatives have forced industry participants to, at the very least, review their business models.

Deutsche Bank has taken a look at the securities transaction chain, in a bid to identify where exactly the bank can add value, and to find out what clients really want to buy and, equally importantly, how they want to buy it. Do they, for example, want a bundled or unbundled service? And how nimble can we be in the ways we offer products and capabilities to our clients?

Industry trends

At the same time, we need to take account of how the industry and its supporting technologies are evolving. There are several regulatory and infrastructure initiatives of which Deutsche Bank has

been supportive from inception, Target2-Securities (T2S) being a good example. We do, however, cater to a dynamic and diverse set of clients, which are often in the process of evaluating their service propositions to their own clients.

We looked at our business model and asked how, in this changing, dynamic world, we could adopt a more modular or component-based approach to product and service provision, allowing clients to pick and choose what they want and when.

One result of this assessment was the launch in November last year of Asset Servicing Only, a component-based solution that allows our clients—whether banks, broker-dealers or asset managers—to outsource various aspects of their business to us, such as tax reclamations, corporate action processing and asset safekeeping.

In doing so, clients benefit both from harmonised, standardised solutions and from a modular approach that helps meet the requirements of the changing landscape, while connecting directly to T2S.

The model delivers component-based data facilitated by component-based products and new business models. This approach was only made possible by new technology and a collaborative foundation both internally and externally.

We believe this is in sync with the direction of the market. Our industry is at a pivotal point today, with two trends in evidence. First, clients want more modular solutions with greater choice to allow them to remain competitive in their own spheres of operation. From their service providers, they want to prioritise the areas that give them the most value and go directly to market infrastructures for other transaction-related processing.

The second major trend is that new technologies such as artificial intelligence, application processing interfaces or distributed ledger technology are starting to take centre stage. Our clients are spending more time evaluating these technologies, assessing how they could be leveraged to boost efficiency and, ultimately, reduce cost.

In the securities services business, engagement with these technologies is not driven by an abstract interest in the way they operate, but in their potential for enhanced analysis, delivery and security of data.

This last point should not be downplayed. Cyber security is becoming a huge topic from an industry perspective.

We are not only concerned with the safety of the assets we hold on behalf of our clients, but also the data we hold for them. We need to align with client expectations.

Learning from change

I would suggest that these challenges should be addressed using a four-pronged approach.

The first point is to nurture front-to-back collaboration and partnership. The second is to embrace a cultural change in the way we do business.

Third is a concerted focus on data and digital, which I put together purposely, and the fourth point is to help create sustainable business models. Underpinning all this is the need to bridge the gap between theory and reality; it's important to ensure that what we propose is what we can deliver.

Front to back collaboration

At Deutsche Bank, we have placed great emphasis on learning from the best practices that exist from the front office to the back. As an organisation, we are increasingly integrated. Clients do not care how we are configured, as long as they are receiving a consistent service at a great price.

The only way to ensure that is to create a vertically integrated business solution that we can then scale and adapt.

Cultural change

Securities services are often portrayed as staid and conservative. I believe that, as an industry, we are open to change, but we need to embrace a mindset that encourages new technology.

Within Deutsche Bank, for example, you won't hear much reference to 'disruptive' technology—that term is already an indication of a resistant mindset. We see new technology as something that is enabling us to rethink our business model, rather than as something disruptive.

The market experience with T2S is perhaps instructive here. The industry mood around the project has partly been shaped by the fact that it is one element in a set of changes that need to be completed before the full benefits can be felt. At the same time, by taking one component of the securities value chain and putting it on to an integrated platform, an apparent level of complexity was introduced by decomponentising the flow.

This is, however, only true at a superficial level. Participating markets in T2S may have underestimated how integrated they were and the challenges that would result from decomponentising settlement onto a common platform.

At the same time, the industry harmonisation that preceded the live launch of T2S could not have been achieved without T2S and that, in itself, has unlocked opportunities for technological integration based on a common platform. Attention is now shifting to issues of asset servicing and considering how the pan-European platform could be used to free up liquidity. As key regulatory changes such as the Central Securities Depository Regulation, the second Markets in Financial Instruments Directive and the European Markets Infrastructure Regulation come into effect, the operational changes required to comply with them effectively will make the benefits of an integrated settlement platform suddenly very clear. Given the amount of data they hold, securities services providers are strongly positioned to create transparency to ensure compliance with regulations and provide further services that add value and insight to the client.

From a service provider's perspective, the process of decomponentising needs to move beyond settlement into other aspects of custody,

allowing different combinations of services to be offered to clients and facilitating new forms of collaboration with both clients and other providers of services currently working in their own silos.

The cultural change we're seeking from a business perspective is about making sure we pay attention to how our clients and employees are using technology, and how they want to buy and deploy it. We need to ensure that the next generation of leadership in securities services is imbued with an openness about how technology can be used to enable our clients to get data and information.

Digital promise

Clients no longer simply want to know whether their trade has been settled. There is already a demand for real-time data correlations and intraday tracking of settlement progress. The question is not in the amount of data we make available, but the quality of the data as measured by what it allows clients to do. More is not necessarily better. Our data offerings must be targeted and useful. They must help our clients achieve what they are trying to achieve. Data must also help clients find operational improvements in their processes, and educate them as to where failures are occurring in their business and operating models, so that they can be empowered to effect change.

In that respect, developments at the retail level with digital technology demonstrate two aspects of client empowerment. On the one hand, clients can choose to access and manipulate information that previously required the intervention of their service provider. On the other hand, they are able to exploit functionality that was simply not available before.

Sustainability

Our own clients' headcount can be affected if we are more efficient. Every piece of research that I come across says margins are being compressed along the value chain, and that this will not be reversed any time soon. Without adopting and adapting digital opportunities, existing ways of doing things will no longer be attractive from a business perspective. We need to facilitate a true partnership with our clients so they can thrive, thereby ensuring that we have a truly sustainable business model. **AST**

Given the amount of data they hold, securities services providers are strongly positioned to create transparency to ensure compliance with regulations

Satvinder Singh, global head of securities services, Deutsche Bank





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A landscape shifting

Broadridge's Demi Derem talks proxy processing for custodians, the updated SRD and the opportunity for shared service operational models

Shareholder Rights Directive

Corporate governance scandals across the globe and recent questions raised by the media about transparency and accountability have compelled regulators to take a close look at ownership and shareholder rights.

The influence, for example, of major overseas conglomerates on European financial institutions is under scrutiny in the region.

The European regulatory community has also cracked down on corporate tax avoidance in the wake of the revelations from the Panama Papers in 2016.

In this light, the European Council adopted the new Shareholder Rights Directive (SRD) in June 2017, with a view to encouraging shareholders' engagement in listed companies in Europe and improving the transparency of related processes, including proxy voting. SRD provides an update to the 2007 version of the directive

and adds requirements related to remuneration of directors, identification of shareholders, facilitation of exercise of shareholder rights, transmission of information, and transparency for institutional investors, asset managers, and proxy advisors.

The majority of SRD must be translated into national law by individual European member states by June 2019. The directive is extensive and is likely to entail some significant and costly changes related to process reforms and transparency requirements.

It will affect issuers, asset managers, custodians, central securities depositories and a range of other intermediaries and service providers.

As with any significant change, it will present both challenges and opportunities for the constituent parties involved. Among many other changes, intermediaries such as custodians will be required to transmit general meeting agendas and voting information 'without delay', to shareholders in a standardised format—potentially challenging current workflows and time-sensitive scalability.

Taking advantage of a managed, mutualised and global best-in-class service enables custodians to reduce the cost and complexity of their local operations and respond to the pace and depth of regulatory change

Demi Derem, general manager for investor communication solutions, international, Broadridge

Blockchain

Those involved in the shareholder value chain, such as custodians, have been quick to explore and understand the impact of emerging technologies such as blockchain on their business. Emerging technologies are largely viewed as both enablers and a threat. Most understand, however, that doing more of the same is not a viable strategy for the future. There is demand for change in the industry and new technology offers the fastest route to that change.

Broadridge, working with three leading financial firms, successfully completed a pilot that employs a blockchain technology to enhance global proxy vote transparency and analytics. The pilot provided transparency by adapting distributed ledger technology (DLT) capabilities to provide daily insight into vote progress throughout the issuer's proxy voting period, from meeting announcement data to the annual general meeting (AGM). The application ensures role-based access to voting data through the use of cryptography and smart contract technology. The pilot was run in parallel to the AGM, with blockchain utilised to produce a 'shadow' digital register of the proxy voting taking place in the traditional model.

As part of our roadmap, we continue to expand the proxy minimum viable product's functionality and deepen the use of DLT among market participants. While global proxy processing is an obvious

place to start, it is clear that learnings from earlier pilots can be easily transferred to other areas of the corporate action universe in the future.

Shared service models

The opportunity to improve cost and income ratios, respond to regulatory change—the SRD being a current example—and drive efficiency through shared services is generally well understood by custody and securities services providers. Proxy processing, not just at the global level but also locally, is well-suited to a shared service model.

Taking advantage of a managed, mutualised and global best-in-class service—a shared service model that provides an end-to-end proxy solution at a local market level, covering agenda sourcing and translation, distribution of meeting announcements and vote execution—enables custodians to reduce the cost and complexity of their local operations and respond to the pace and depth of regulatory change, while streamlining efficiency and reinforcing the firm's market reputation.

At the same time, it also enables the custodians to capture the benefits of transformative technology innovation through investments applied centrally by the shared service provider. **AST**

A new approach

Radosław Ignatowicz of Raiffeisen Bank discusses the advantages of the bank's new and improved group securities services operations centre

Drew Nicol reports

Tell us about the business you run in Poland.

Raiffeisen Bank was established in 1991 as the first foreign bank in Poland and received its custody licence six years later. Raiffeisen Bank Polska (RBPL) has since grown its custody and depositary business, and is currently a depositary bank for over 20 percent of the investment funds in the market, with steady growth in clients assets under custody. In addition to the domestic custody business, we also support the new custody model of Raiffeisen Group Securities Services, the so-called operations centre, run out of Vienna.

How is the operations centre different to the old hub solution, and what was the rationale for implementing it?

The main difference is that a hub provides a connection to the local markets indirectly, through a number of appointed sub-custodians. This leaves clients with worse deadlines, higher fees and more operational risk. Raiffeisen Bank International's (RBI's) operations centre is directly linked to the respective central securities depository (CSD) in the market, meaning settlement is effected without the intermediation of a local sub-custodian. Hence, we can provide the same deadlines, with the same base cost of settlement as any local player. Currently, RBI is directly linked to 10 markets.

In light of T2S, the ever-growing regulatory requirements being imposed on banking institutions and new technological initiatives, together with the constant pressure to lower costs and increase efficiency, this was a strategic move. We were inspired by similar solutions in the Scandinavian region where banks operate such linkages to their CSDs.

Despite fragmentation of markets and their different stages of development in Central and Eastern Europe, we saw that both the technical and legal environment would allow us to proceed with linking to the CSDs directly. In our view, this approach brings the biggest value for the clients and allows us to get the best out of the invested money. Copying the ordinary sub-custodian model in this already competitive business area would not make much sense. From the three-year perspective I can only say that our decision to build this new initiative was spot on.

So what is RBPL's role in this model?

RBPL represents the group securities services (GSS) operations centre on the ground. We attend market working group meetings,

lobby for initiatives that would benefit GSS clients as well as the GSS ops centre itself. We have a dedicated ops centre team that supports RBI in this respect.

The capital market laws in Europe continue to be fragmented, and hence, it is still important to have local presence, especially when it comes to collecting corporate action information and processing voluntary corporate action events. Besides, we recognise how important for international clients the local touch and understanding of the local flavours is. By centralising settlement processes in Vienna, we do not want clients to be isolated from the local market. To the contrary, clients can still have direct contact with local relationship managers who can explain local specifics and comment on local developments. The main difference is that, instead of signing a sub-custody agreement with each individual market, a client has one central legal relationship covering all these markets, where local units such as RBPL work as RBI's subcontractors, based on an intra-group service level agreement. The beauty of this concept is the ability to centralise and standardise legal and operational aspects while retaining the connection to the local market experts. This is something the old hub solution is missing.

What are the benefits to the clients of the ops centre versus the ordinary solution?

There are numerous advantages of this model. It provides for a simplified legal structure, allowing clients to sign a single agreement with RBI under Austrian law. It allows for lighter due diligence procedures as most of the operational aspect is covered by the operations centre in Vienna. Clients benefit from a standardised service and reporting provided through one centrally managed IT infrastructure for all the connected markets. Moreover, when a client decides to sign up for one market through the ops centre, they will have an easy and almost instant access to all other nine markets where RBI is directly connected. This direct access to the markets improves cut-off times and standardises the settlement processes across the region, simplifies the account opening procedures and minimises operational risks. Another aspect that many global custodians have recently been looking at more closely is the impact of the sub-custodian commitment and the risk of their exit from a given market. The GSS operations model is almost entirely resilient from such effects.

Why do you think RBI's model is immune to such fluctuations?

As explained earlier, the ops centre is directly linked to the local CSD. It means that, despite the important role of a local unit, it is still possible to continue the service even without such local presence, as

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core services are performed out of Vienna. The auxiliary services such as cash clearing and legal or tax support can be easily bought from local entities. For example, when RBI decided to sell the local unit in Slovenia it had no impact on the securities operations.

How are the Polish banking sector and the economy doing these days?

Banking institutions in Poland face the same ever-growing regulatory pressure as in other markets. In addition, Polish banks have to cope with the banking tax, introduced last year, and the tensions around the fate of foreign exchange mortgage portfolios as the president and the parliament continue to work on several proposals tackling the issue. All bring new costs for the banks and put them under pressure. These issues foster consolidation processes, as some investors look for exit possibilities while others see business opportunities in improving their cost base. This year we have seen UniCredit leaving the scene.

The press also speculates about further players reconsidering their presence in our market. From the custody business's perspective this creates new challenges for network managers who might be forced to review their providers in the market. RBI's operations centre model, with the aforementioned benefits, is definitely something to consider in light of these developments.

With respect to the economy, in general, following a minor slowdown in 2016, the Polish economy entered a phase of expansion. The key driver of growth is consumption, boosted by the government's new child benefit paid out to families on a monthly basis, but also by steadily improving conditions of the labour market. The unemployment rate has been declining too, and reached a record low of 7.4 percent in May this year.

Moreover, the launch of new projects in connection with the new EU 2014-2020 framework has already boosted the level of investments in Poland. As a result, from a drop in 2016, investments in the country are expected to accelerate and rise by over 8 percent this year. Another positive development comes from the area of public finances. Despite the increased spending in the form of the monthly household benefits, after the first half of 2017 there was an uncommon situation

in the Polish state budget, which posted a surplus versus the deficit planned for this period.

How about the Polish capital market?

These positive changes in the economy and public finances have been noticed by the ratings agencies. Earlier this year, Moody's revised its Polish rating outlook from negative to stable (A2) while Fitch maintained its rating of A- with a stable outlook.

Also, at the Warsaw Stock Exchange (WSE), despite the fluctuations among the key members of staff, perceived by many as rather worrying, the trading volumes on the main market of the WSE rose significantly in each month of the first half of 2017, when compared with past year. The same refers to growth of main indexes and number of sizable initial public offerings. WSE statistics show that individual investors' activity is growing, which might suggest that a low-interest environment contributes to shifting individual deposits towards capital market instruments. Another important aspect that might influence the market is the plan to change the pension system. On one hand, the obligatory private pension funds system is supposed to be transformed into investment funds, on the other, the Ministry of Finance and Development plans to establish obligatory employees' pension schemes with new obligatory contributions. Although the details have not been revealed yet, the declarations have been welcomed by the market as they are expected to contribute to the building of Polish society savings and contribute to the capital market development.

It is yet to be seen how the economy and the state budget will perform once the phase of expansion passes, the EU funds inflow dries up and the labour supply decreases due to aging of the Polish population. The challenges these days lie not only in the economic situation of the country. Politics also matters, and may have an impact on the country's position in the European Union, especially in light of pressure for closer integration among eurozone countries.

Anyhow, the economic factors are definitely something to be proud of and we all keep our fingers crossed for Poland to make the most of its potential and to remain as success story, as it has been over the last years. **AST**

WSE statistics show that individual investors' activity is growing, which might suggest that a low-interest environment contributes to shifting individual deposits towards capital market instruments



Radosław Ignatowicz, head of group securities services and financial institutions Poland, Raiffeisen Bank Polska

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To have and withhold

Investors are becoming more savvy to the withholding tax deductions on their ADRs. The answer lies in outsourcing, says Goal Group's Vicky Dean

Stephanie Palmer-Derrien reports

Why and how do withholding taxes arise in American depository receipts?

Any income paid from foreign securities to investors—dividends and interest payments especially—is subject to withholding tax deductions, this includes American depository receipts (ADRs), and means that investors are taxed both in the market of investment and their country of residence, which in some cases can amount to a deduction of up to 30 percent. ADR securities are normally held in custody by the Depositary Trust Company (DTC) in New York, so when a foreign dividend is paid, it has already been subject to these deductions at source and is usually made at the full withholding rate.

There are opportunities, however, to reclaim the excess withholding tax deducted thanks to a number of double taxation treaties that exist between a number of countries. Applications can be made via relief at source, quick refunds or long-form reclaims, and investors are then able to recoup the excess amount withheld. The eligibility of these reclaims is dependent on the treaty rates that exist between the country of investment and country of residency and the entity type of the beneficial owner. Each case is assessed individually by the foreign tax authority, before the reclaim is approved and payment

of the excess withholding tax is settled. A large number of investors are still unaware of this tax, and that it can be reclaimed. Therefore, around £13.2 billion is left on the table every year and, due to markets having a statute of limitations, investors often lose out.

Are custodians best placed to handle ADR issues? If not, why?

Custodians are often just the holders of the foreign securities for their underlying clients, the beneficial owners. As a result, it is commonplace to have these stored in an omnibus account, so every account is treated in the same way tax-wise, regardless of the entity type or residency. Reclaims on dividend payments and ADRs are complex and involved, requiring knowledge on tax treaties, entity types, forms, rates and foreign tax authorities' processes and protocols. It is for this reason that a lot of custodians will only provide this service on a select number of markets that are considered to be relatively simple.

The more complex markets are overlooked, and often reclaims are relinquished because they fall out of statute. Secondly, given that the economic crisis is still affecting the financial services industry as a whole, the additional pressures of cuts on budgets and headcounts, along with balance sheets and increasing workloads, mean that custodians are unable to provide the necessary attention to these matters. Often it is not covered as part of their custody services offered to their clients.

Outsourcing is an economically viable and scalable option that allows custodians, financial institutions and other finance professionals to focus on their core area of expertise, while benefitting from specialist external services

Vicky Dean, director of withholding tax sales, Goal Group

Recently, outsourcing of tax reclaims to companies that provide this as their specialist service has increased, as companies such as Goal Group can provide the expertise and automation needed to ensure that this task is more efficient, and therefore lower in risk. With the added pressure of good corporate governance, and with underlying investors becoming more savvy and demanding to reclaim what is rightfully theirs, even custodians are looking to outsource this service to specialist companies.

What does Goal Group's ADR solution accomplish?

Goal Group offers withholding tax relief services to depository banks with respect to certain depository shares, New York registry shares, and other similar securities for which the depository acts as issuer and/or paying agent. We work on behalf of the depository to collaborate with its various stakeholders including local custodians, issuers, tax authorities, the DTC, DTC participants, transfer agents and registered shareholders, to help facilitate efficient withholding tax relief.

Tax relief includes relief at source, quick refunds and long-form tax reclaims with respect to shares held at DTC and/or an international central securities depository, and for shares held by shareholders outside of DTC, generally referred to as registered shareholders. In addition to working with the depository banks, we are also beginning to support ADR reclaims for other DTC participants by providing a suite of superior services including elections, document management and reclaims on their behalf.

One of the biggest plus points with Goal Group entering into this new service offering is that it allows underlying clients and the depository banks to effectively manage their vendor concentration risk, which plays a key part in decision making.

Is withholding tax reclamation being outsourced much? Surely financial institutions are experts in tax?

Up until 2015, outsourcing any type of work was avoided, as there were huge concerns associated with data protection, privacy laws and data transfer. Now, more custodians, private banks, depository banks, individuals and fund managers look to outsource this function to the experts, as opposed to developing and providing a solution in-house.

Factors such as market complexities, legislation, form and rate changes, documentation, and simply the manual need to fill in hundreds of forms require several resources.

In the current economic climate, that is just not an option.

Given additional pressures such as reduction in headcount and balance sheets, increases in workload and the need for good corporate governance, along with increasingly savvy investors demanding more, outsourcing is increasing in popularity.

Measures such as ISO 27001 accreditations and cloud-based technology and data storage mean that all the previous data concerns have largely been addressed, and data is more secure than ever with these extra assurances. In addition, the use of a supplier such as Goal Group provides excellent risk leverage and dilutes the concentration of already existing suppliers.

Nowadays, outsourcing is an economically viable and scalable option that allows custodians, financial institutions and other finance professionals to focus on their core area of expertise, while benefitting from specialist external services, which is demanded by their clients. **AST**

A black and white portrait of Eddie Astanin, a middle-aged man with dark hair, wearing a suit and tie. He is looking slightly to the right of the camera with a neutral expression. The background is a plain, light color. A large red triangle is overlaid on the left side of the image, partially obscuring the portrait.

Russia's new world

As Russia's National Settlement Depository celebrates its fifth anniversary, Eddie Astanin explains how the CSD strives to ensure market participants get the same services as those operating globally

Stephanie Palmer-Derrien reports

How would you describe NSD's key operational results for this year and for the recent five years?

Speaking globally, during recent years National Settlement Depository (NSD), Russia's central securities depository (CSD) has fundamentally transformed its business model and has been integrated into the global financial market. If we focus on landmark projects that have been successfully implemented in recent years, I would mention obtaining the official status of the CSD, implementation of the foreign nominee concept, and NSD's links with international central securities depositories (ICSDs), as well as significant development of technologies and the legal framework with regard to corporate actions.

How has the role of the Russian record-keeping infrastructure changed?

Russia's record-keeping infrastructure has followed the global development trend and, in some aspects, it has even led the charge. For example, from the beginning, the CSD was created as a non-banking credit organisation that maintained not only securities accounts, but also cash ones with direct access to the Bank of Russia's settlement system. Record-keeping institutions become market utilities, helping their clients reduce costs and mitigate risks on the one hand and increase margins on transactions on the other.

Safekeeping assets of different categories; settlement and collateral management of transactions with these assets; providing information about these assets; and building channels to exchange messages between service providers and their customers, including retail clients, are all characteristics of existing and future models of record-keeping infrastructure.

In Russia, we have a saying: "Fish looks for deeper water, man—for better places to live." From this perspective, the post-trade industry is now in the stage of developing rapidly and searching for new applications, including in segments that are adjacent to the financial market. It is moving towards a financial supermarket model. Globalisation, regulatory initiatives (for example, G20), and new breakthrough financial technologies contribute to this. Technologies that previously supported the sector are now being transformed into business drivers.

However, there are also regulatory requirements.

Indeed, this is the most important factor. I recall that in 2015, during a CSD panel discussion I attended, the moderator asked speakers: "Could you name the most important factors that can have a positive or negative impact on the development of the CSD industry?" My answer, without hesitation, was regulation. Between 2009 and 2016, the post-trade industry developed very quickly due to regulators' activity related to adopting CSD legislation, and because of laws related to clearing operations, foreign nominee accounts, corporate actions reform, and so on.

Combining new regulation and the adoption of post-trade technologies for custody, record-keeping and stock market settlements could create a bridge between the traditional financial world and the emerging world of digital assets

Eddie Astanin, chairman of the executive board, National Settlement Depository

Currently, there are ongoing discussions about cryptocurrency regulation in Russia. The results of these discussions may lead to a regulatory ban on operations using these assets or the development of new types of digital assets which may be serviced by CSD.

Which projects related to integrating Russia's infrastructure into the global financial system do you consider to be a priority?

These priority projects can be united into three groups: the standardisation of financial messages; compliance and cyber security; and the development of direct operational interactions with Asian financial institutions and CSDs.

Did sanctions and the general deterioration of the geopolitical situation surrounding Russia affect your plans?

NSD is the infrastructure; a water pipeline, to adopt a term from Peter Norman's book Plumbers and Visionaries. We do not conduct our own operations on the market. Instead, we serve our clients' needs. For us, geopolitics is the external environment in which we and our clients work.

At this stage, our mid-term strategy is unchanged. However, I do not exclude the possibility that we may need to make adjustments in the future, due to the external situation. The current degree of tension, unfortunately, means that a vector focused on market fragmentation has been formed.

You are a member of SWIFT's global board of directors. Could you explain how your cooperation is being developed?

NSD and SWIFT have a long-term partner relationship; NSD is the largest user of SWIFT services in the Russian market, acting as the CSD and a nationally important payment system.

However, my activities as a member of the board of directors are focused on developing SWIFT in the best interests of the global community of SWIFT users, taking into account the position of the Russian National Swift Association. In particular, Russian SWIFT users pay attention to issues related to the development of message exchange formats, compliance, cyber security, and technical support services.

I am happy to say that, over the most recent two years, we have succeeded in fulfilling many plans. For example, we changed the model for supporting Russian users by transferring the support directly to the global SWIFT level. We managed to successfully reduce fees for Russian users. With the support of the Bank of Russia, we have increased users' attention to, and responsibility for, cyber security and undertaking measures stipulated by Content Security Policy. In addition to this, in the summer 2017, the Innotrube Startup Challenge was held in Russia for the first time. This is a contest for startups that SWIFT has held since 2011, which allows participants to demonstrate their developments and establish contacts within the professional financial market community.

The world is experiencing a crypto-asset revolution. What do you think about this issue?

We believe there may be exciting new opportunities in this area if Russia develops an appropriate regulatory framework. There is a lively and ongoing discussion about cryptocurrency regulation in Russia. I cannot predict the results of these discussions, however we are backing those who support adopting a law regulating operations with digital assets.

I suppose that combining the new regulation and the adoption of post-trade technologies for custody, record-keeping and stock market settlements could create a platform, or bridge, between the traditional financial world—which of course will not disappear in the near future—and the emerging world of digital assets. **AST**



Insight through analytics

Asset servicing companies are handling huge volumes of data, and they're looking for big data technologies to transform that into valuable business insight, according to Arnaud Misset of Caceis

Data lakes, a term for the massive pools of information generated by funds' day-to-day activities, are the defining element of big data technology. However, the quality of this data is the foundation of the entire activity, and much care must be taken to ensure that all sources of data are reliable, in order to guarantee accurate results and generate a warehouse of standardised data.

Not only populated with information generated within the asset servicer, data lakes are also sourced from other service providers, fund managers themselves, external data providers and information on social networks, as well as economic indicators or any other information that may be relevant. Data lakes generally hold several years' worth of historical data, and are fed with information in as close to real time as possible, which enables institutional investors and fund managers to query up-to-the-minute data, and generate the most relevant reports on which to base strategic decisions.

Financial reporting

Data analytics can be deployed in many areas to assist institutional investors and fund managers, but a key area is financial reporting. The financial industry is particularly concerned by the exponential growth in data it is required to generate, process and report on. In the wake of new financial reporting regulations, in particular the second Markets in Financial Instruments Directive, Basel III, Solvency II and the Alternative Investment Fund Managers Directive, institutional investors and investment management companies have had to

confront massive data management and analysis tasks in order to meet transparency requirements in terms of information and reporting to the relevant national authorities.

Big data technology allows them to get answers to queries such as: 'what is my risk ratio on a second-level fund of fund compared to third-level?' Or: 'Am I currently compliant with regulatory risk ratios?' Powerful processing tools working on the data lakes permit managers to generate accurate reports on look-through, performance, and risk and regulatory ratios quickly and reliably. The speed and breadth of the technology means asset managers can allocate less time to sourcing data, processing it and displaying it, and far more time to analysing the information in order to understand market trends. Engaging a big data processing provider also frees up internal resources, which permits managers to focus on their core business of generating investor value.

Fund distribution

Data analytics can also be used to provide reference indicators for investment management companies in order to refine their sales strategy. For example, ex-post analysis of subscriptions and redemptions will allow the determination of a correlation between investor behaviour and a fund's performance relative to its benchmark. This information can be of valuable assistance in establishing a fund's commercial positioning. Such reports will allow investment management companies to achieve more in-depth marketing

For asset managers, data analysis is key to staying ahead of the competition and remaining at the forefront of technology, and service providers are keen to share their expertise in the field

Arnaud Misset, group product director, Caceis

analysis, including inflows, investor behaviour, distribution networks, and so on. In addition, analysis can distinguish by type of final investor, country and distributor, permitting investment management companies to better determine who their target clients are and the optimal distribution network to reach them.

Investor behaviour analysis

Investor behaviour analysis gives investment managers even deeper insight by looking into their customers' actions in response to internal strategy decisions and market stimuli. It examines data from fund distribution activities and combines it with investor characteristics to provide a clear picture of the impact of marketing initiatives as well as potential business development opportunities. Utilising data from social networks such as Twitter and Facebook, data analytics tools can provide answers to soft questions on subjects such as brand visibility, both of the investment manager's own brand and the brands of its competitors.

The technology also enables sentiment analysis that helps asset managers answer questions such as 'how are social networks talking about the brand?' and 'what is the resulting impact on order collection?' Such insight becomes increasingly important as the younger, more internet-savvy population matures and becomes potential investors, keen to use the internet to seek information on and discuss investment opportunities and opinions on online platforms.

KPI analytics

Along with financial reporting and fund distribution analysis, data analytics provides another advantage for those investment managers working with an asset servicing provider. They can generate key performance indicators (KPIs) on the provider's performance at any moment, allowing them to view statistics on net asset value

calculation performance and settlement performance in real time. The flexibility of an open platform enables managers to query the data in so many ways that the information can be precisely tailored to a manager's needs, and the results can be generated and displayed in clear and accurate reports in seconds.

The powerful tools that enable data analytics on big data use vast amounts of processing power locally, but can be securely accessed through a flexible web interface or even applications designed specifically for mobile devices. This allows financial reporting, fund distribution and KPI analytics to be handled around the clock and anywhere in the world. Furthermore, the data lakes, analytics algorithms, and the systems they run on are constantly growing more powerful, which means the possibility for insight opportunities and new services are continuously evolving. For asset managers, data analysis is key to staying ahead of the competition and remaining at the forefront of technology, and service providers are keen to share their expertise in the field with the investment management community.

Caceis offers all such services to its investment management clients. Clients are not, however, just provided with the tools and left to work out how best to put them to use. Our experts are on hand to assist users at all levels in defining their exact needs and in setting up the reports using either the web-based tool or the mobile application. The data analytics tool is very simple to use so clients can quickly learn how best to benefit from it, gain insight into their business, and produce the reports to assist strategic decision-making.

As innovation is a core tenet in Caceis's business development objectives, we are constantly adding new features to the data analytics service in order to increase its insight potential for the asset management community and give our clients a clear advantage over their competitors. **AST**

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The magazine's readership selected a list of nominees, which were judged by financial experts and editors, who honoured Commerzbank for its market position, innovation and international expertise. World Finance, 07/08 2016 issue

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