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SIBOS 2019 FX REPORT

A SPECIAL SUPPLEMENT FROM e-FOREX MAGAZINE



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sibos

LONDON
23 - 26 Sep 2019



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Welcome to our special Sibos 2019 FX Report. This year Sibos is taking place in London and the conference theme – thriving in a hyper-connected world – recognises the challenges, and opportunities that mass digitisation and data-driven relationships present for the Sibos community.

The inaugural FX Day at Sibos is taking place on the 23rd of September and will see a range of experts cover a series of burning issues in the FX markets. To compliment and closely align with the planned sessions on the

FX day the e-Forex team have worked closely with SWIFT to put together a series of articles in this edition that are focused around the 5 major subject headings of Regulation: Data: Liquidity: Workflows and FinTech. A leading

Capital Markets consultancy GreySpark Partners have also kindly provided a special market overview feature looking at the changing structural dynamics of the FX market and the impact this is having especially on the sell side.

Monday 23rd September 2019 – Exploring the Sibos FX Sessions in more detail

9.00am – 9.45am

FX Markets: The balancing act between direct regulation, new technology and principles-based supervision

The FX markets are large, fragmented and not as liquid or well understood as many observers claim. Data about the size of the markets, and the market shares of different instruments, participants and service providers, is incomplete. The FX markets have also suffered from a stream of confidence-sapping scandals, prosecutions and litigation by buy-side clients, but cannot be regulated directly on a global basis. Instead, regulators have sought to address behavioural issues by encouraging market participants to subscribe to the principles of the FX Global Code, which has so far attracted more support from the sell-side than the buy-side. Some say price transparency is the best solution, while others favour shifting to on-exchange trading and centralised clearing. The threat of direct regulation has yet to recede completely, and all the main market participants are regulated in the jurisdictions where they operate, so it is not totally impractical. Meanwhile digital technology has already empowered new entrants to the FX markets, and promises to cut post-trade costs dramatically as well, though it will take time to prove if that promise can be fulfilled. In short, the FX markets are in flux, but it is their future shape which is being decided now by a complex interplay of regulation, innovation and technology.

9.45am – 10.30am

Data, data, everywhere – But why so hard to measure?

FX markets depend on data. From pre-trade to execution to post trade, the entire FX transaction lifecycle relies on – and generates – huge volumes of transaction data. Data informs trading strategies, and in particular drives increasing algo/automated trading activity. Regulators collect enormous amounts of data to gauge the ‘health’ of currency markets, monitor exposure and risk, and guide monetary policy. Better and more comprehensive data matters deeply to traders, hedgers, regulators and customers. Yet accurate and timely data on the size of the FX market itself is more difficult to obtain because it is fragmented across multiple platforms, providers and participants. Currently, the BIS triennial survey is the primary official measure of the ‘share of wallet’ of different currencies, instruments, participants and financial centres, but by definition this is neither a ‘real time’ nor entirely reliable snapshot of the FX market. This debate will ask what more should FX market participants do to improve the timeliness and quality of data, and what more regulators may demand if they do not.

13:00 to 13:30

FX and the new world order

A keynote after lunch speech from a well known FX industry speaker.

13.30pm – 14.15pm

Why liquidity in the FX markets is the next industry challenge

FX markets are routinely described as large and deep and liquid. But a daily average turnover of \$5 trillion conceals massive fluctuations even in major currency pairs around particular times of day - and when fresh news is released. Recent surveys state that liquidity is seen by currency traders as the biggest challenge in 2019. Technology itself has changed the sources and nature of liquidity. Technology has now revolutionised the way currencies are traded, and the types of people that trade them, and created a host of new trading platforms, trading methods and trading firms. As more and more electronic trading platforms and non-bank liquidity providers emerge, and use of algorithms increases, perhaps coincidentally currency markets have become vulnerable to sudden drops in liquidity, resulting in flash crashes and other extravagant price movements. Whenever there is market stress liquidity is impacted, and liquidity has the greatest impact on the financial health of market participants. So, it is hard to overstate the topicality of liquidity management today, to traders, hedgers, regulators and customers.

14.30pm – 15.15pm

FX innovators: Hear from the FINTEchs planning to transform the FX markets

In this session a select band of FinTech providers will explain to the audience and the panel their ideas on how to make the FX markets more open, transparent, liquid and efficient. FinTechs in FX are promoting powerful new technologies to cut the costs of trading and to settle currency trades. Incumbents are investing in new technology directly, or partnering with technology vendors, or backing start up FinTech ventures. FinTechs have already reduced the costs of currency trading, notably for retail investors. They are improving the terms of trade for corporates, asset managers and end-investors too. FinTechs are targeting the back and middle offices as well, seeking to eradicate or reduce post-trade costs. Crypto-currencies may yet turn the FX markets upside down. But there are plenty of innovations available already that can deliver incremental improvements, solve a longstanding problem, or deliver an entirely new approach to operational efficiency.

16.00pm – 16.45pm

How are people changing their FX workflows to prepare for the next digital age?

This session looks at next generation workflow solutions that further integrate FX execution and treasury systems. Seamless, end to end trading efficiency from front end execution to back office processing has been a core objective of all market participants for many years. More recent innovation in, and broad adoption of, APIs, and the widespread use of connectivity standards, has

enabled direct connectivity between platforms and FX risk managers. These in turn enable FX pricing and transactions to be embedded directly within client workflows. In this way, simple processes from making payments to settling invoices to complex balance sheet management, can have embedded FX capabilities. There is a plethora of established technology providers in the eFX workflow space delivering confirmation matching, aggregation, compression, reconciliation, settlement services and so on. Will these be replaced by the rise of APIs and new digital technologies such as DLT and crypto-currencies, and can they open the way to real-time cross border FX payments?

The FX sellside is challenged by changing structural dynamics

By Willis Bruckermann, Consultant at GreySpark Partners



Willis Bruckermann

In 2019, the wholesale FX market is not the market of yore. Formerly, the defining characteristic of the currencies trading landscape was liquidity fragmentation and siloed pools of cash held within geography-specific currency pairings. Following the financial crisis, commercial, regulatory, trading technology costs management and technological advancement pressures eroded the broker-dealer centric market structure in liquid instruments, paving the way for new, exchange-like all-to-all (A2A) market structures within the leading liquidity centres. The formation of these A2A structures for FX trading – characterised by the disintermediation of investment banks as the leading brokers of access to spot FX liquidity and currencies risk – began to take shape in 2012, and non-bank brokers are now increasingly prevalent as the middlemen of choice for buy-side counterparties (see Figure 1). As a result of these changing structural dynamics,

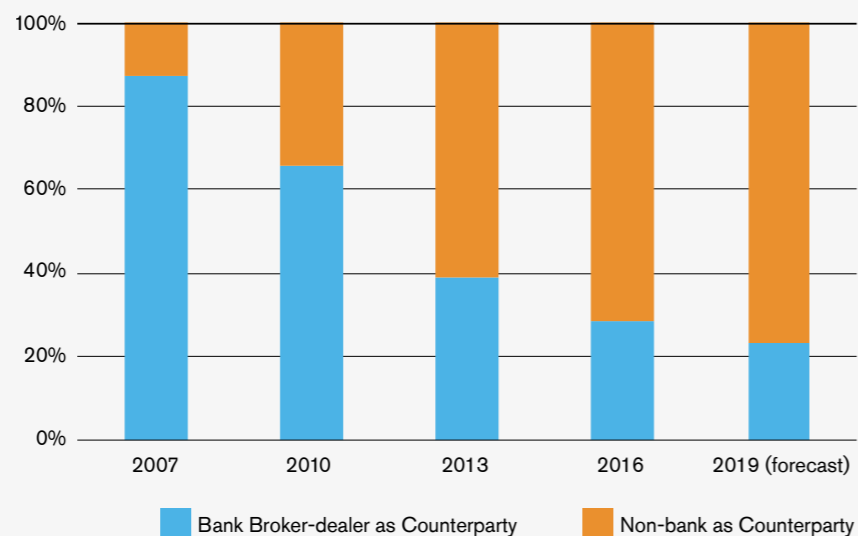
capital markets consultancy GreySpark Partners believes that those buy-side and sell-side FX market participants that fail to evolve the technological sophistication of their trading franchises in light of new business models, roles and functions for different types of FX market participants will, ultimately, fail as businesses. **Simply put, the biggest near-to-medium-term evolutionary challenge for sell-side flow FX market participants is the need to adapt their business and trading models to a fundamental shift in market structure.**

This transformation of the spot FX market in the past decade impacted banks and their buy-side counterparties in different ways. The primary drivers of these changes are the increased

number of market functions and opportunities that shifted from being the near-exclusive domain of large, technologically sophisticated sell-side FX broker-dealers to being accessible to a wider range of firms, impacting the very nature of traditional market participant functions across the board.

On the buy-side, asset managers, proprietary trading firms and long-only, real money institutional investors are consolidating their flow FX business and trading models and, at the upper end of the size-by-AUM spectrum, expanding those business models significantly. The increased scale of the FX business and trading models of the largest-by-AUM buy-side firms led them, for arguably the first time, to become truly global in

Figure 1: Share of Volume on Spot FX Inter-bank Brokerage Platforms by Counterparty Type



Sources: Bank for International Settlements, GreySpark analysis

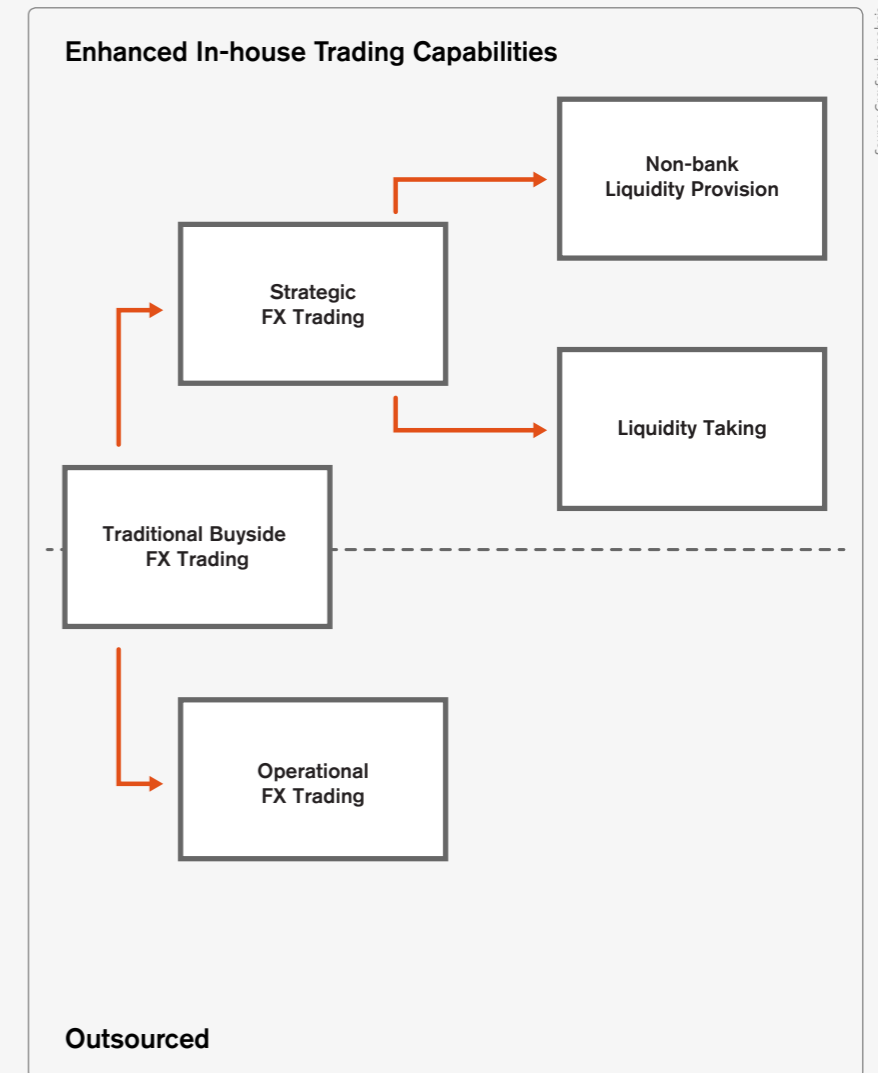
their scale and reach in terms of the capability to seek or provide pricing on spot FX brokerage venues. This is reflected in the use of consolidated, follow-the-sun trading desk models mimicking those adopted first by sell-side institutions.

More broadly, GreySpark has observed that buy-side FX trading is separating into increasingly distinct business models. Specifically, the centrality of FX trading to a firm's overall cross-asset or multi-asset class trading strategy as well as whether the buy-side trading desk seeks to be a liquidity and service provider in FX determine the business model – and associated technology requirements – of buy-side firms.

In 2019, the FX trading business models pursued by buy-side firms fall, broadly, into three categories (see Figure 2):

- 1. Strategic FX trading while stepping into the market roles and functions vacated by bank broker-dealers** – an increasing number of buy-side firms, predominantly quant-driven proprietary trading firms and hedge funds, are becoming FX liquidity providers, both at scale and in smaller volumes;
- 2. FX trading as a strategic concern** – buy-side firms seeking to generate alpha through FX trading but not necessarily provide liquidity on venues or through their own client portals; and
- 3. FX trading as an operational concern** – primarily seeking to minimise the cost of the FX leg of the firm's underlying trading strategy in other asset classes; this set of firms increasingly seeks to outsource the technology costs of the entire FX management and trading lifecycle.

Figure 2: Buy-side FX Trading Strategies Diverge



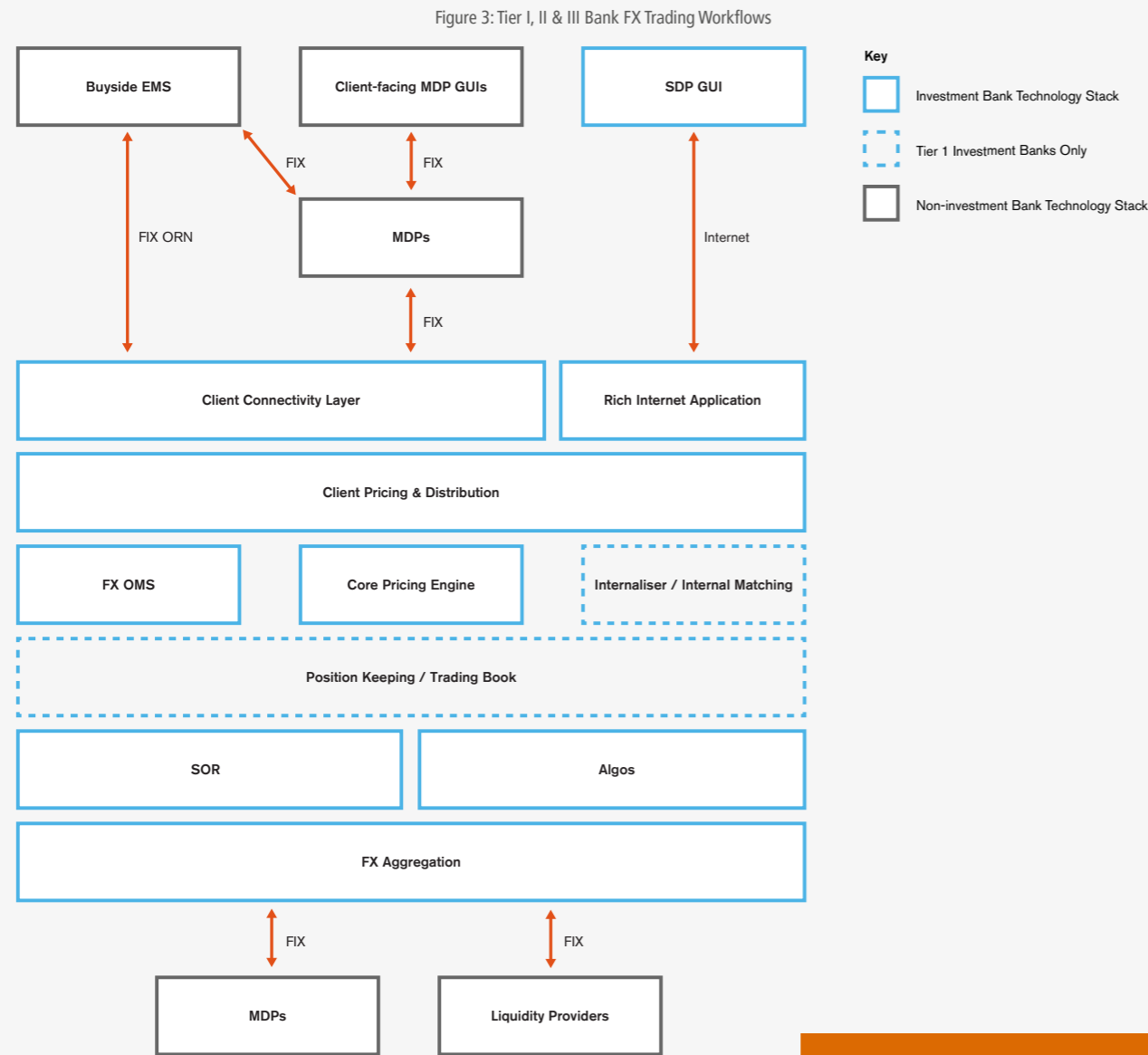
Source: GreySpark analysis

A single buy-side firm may pursue more than one of these business models as part of its FX operations, depending on the complexity and risk appetite associated with the specific FX products in question. For example, GreySpark understands that operational outsourcing is particularly prevalent in FX hedging due to the relatively low potential for competitive differentiation – and, consequently, upside – associated with performing FX hedging well when weighed against the significant downside if hedging strategy and execution are subpar.

On the sellside, and particularly in flow FX products, all but the largest banks have shifted to pure agency trading models in G10 currencies

(see Figure 3). The cost of technology infrastructure to compete with the largest Tier I investment banks – the select few still capable of maintaining universal banking models – is simply unsustainable for banks that are not flow monsters, given the compressed margins trading in these instruments offers in 2019.

However, there remains space in the market for non-flow monster investment banks to position themselves as niche players for specific currencies or products. In doing so, these banks develop a position as – or remain – the market leaders in liquidity provision for niche currencies and products while passing flow products up the value chain to the flow monsters.



Those investment banks that move to niche specialisation continue to own the client relationship; clients may not even realise that the flow product pricing they receive from their sellside execution provider is sourced from higher up the value chain on the basis of an agency trading model. In 2019, an increasing number of Tier II and Tier III, and even some Tier I banks, are choosing to run such client franchises in order to continue to maintain significant non-G10 FX business and to position themselves as the bank of choice for e-FX execution in emerging and frontier markets.

Long-term viability for sellside franchise operators thus requires

banks to undertake the arduous task of identifying the business segments in which they can provide their specific client base with value-add, and transition more commoditised business lines to an agency trading model.

Moreover, with the shift in the balance of power trading away from banks and toward their buy-side client base – reflected in business models premised on ensuring the ‘best’ outcomes for those clients – banks operating under the umbrella of post-financial crisis regulatory requirements must evidence that value-add in a concrete, quantifiable fashion.

ABOUT GREYSPARK:

GreySpark Partners is a Capital Markets consulting company that provides advice, facilitates change and delivers technology to investment banks, hedge funds and asset management firms. GreySpark has expertise in Electronic Trading, Risk and Trade Management, Operations and Data Management and provides Business, Management and Technology Consulting services to buy- and sell-side businesses as well as exchanges, market data providers, ISVs and technology makers. For more information, please visit www.greyspark.com

FX Markets: the balancing act between direct regulation, new technology and principles-based supervision

With more than 2,000 asset managers and corporates already using the SWIFT network to confirm their FX trades with and through banks as well as FX platforms and non-bank liquidity providers, SWIFT users can adopt and implement the principles of the FX Global Code in their day-to-day business without incurring significant cost. An asset manager’s use of SWIFT, for example, could itself facilitate alignment with up to 14 of the Code’s 55 principles. Nevertheless, many buy-side firms have still not signed up to the Code. eForex spoke to Galina Dimitrova, Director for Investment and Capital Markets at The Investment Association, to discover buy-side attitudes to the Code.



“We’ve endorsed the FX Global Code from its inception,” says Galina Dimitrova. “We have worked together with our members to promote it, and to educate first and foremost our member institutions but also to spread that awareness and education all the way to the end-client.” The Investment Association is “very supportive” of the FX Global Code.

Dimitrova continues: “We did think that previously, the global FX market did suffer from not having a single overarching set of principle-based rules to harmonise standards across all those multiple jurisdictions. The new Code very much addresses that. It clearly lays out in some detail what is expected of market participants including counterparties.”

This is, to state the obvious, a ringing endorsement, and the Investment Association’s commitment continues. “We continue to engage with the Code’s ongoing maintenance and development,” says Dimitrova. The Investment Association is also part of the Global Foreign Exchange Committee’s Buy-side Outreach Working Group, which aims to raise awareness of the Code and its value to the buy-side. But, as Dimitrova concedes, the Working Group owes its existence to a lower adoption of the Code on the buy-side than on the sell

side. Why is this, and what is being done to encourage buy-side adoption of the Code? Do buy-side firms not regard themselves as responsible - as sharing in the responsibility - for the efficient and fair working of the FX market?

PRINCIPLES FOR THE LONG TERM

If that is a view held at all on the buy-side, it is very much a minority view. “Our members very clearly understand their own obligations to ensure the continued well-functioning of FX and other markets. They have put in a lot of work,” says Dimitrova. And yet adoption still lags. There are several explanations for this. “Initially, there was a question around awareness of the Code,” Dimitrova continues. The Investment Association represents over 250 firms, and the outreach process to all of them - which included a series of information events - took some time.

There was another issue. In the early stages after the Code's inception, there was a "lack of clarity" around the sign-up process itself - to which the Investment Association published its own guide. "There remains some difficulty in understanding what principles of the Code apply to the buy-side as distinct from the sell side. The Code is for all market participants, but of course we all look for the part that applies to us specifically. That remains unresolved at some level," says Dimitrova. The Code itself has scope to evolve, and the Investment Association has published papers on, for example, last-look.

Buy-side engagement goes beyond the sign-up process itself, of course. The Code embodies a set of principles that buy-side and other signatories must implement and observe over time. There is an obligation on firms to self-monitor their own adherence to the Code. "Our members take this very seriously. Implementation is a process, and it requires the resources and capability to demonstrate ongoing adherence. We are taking all of the right steps to address the low degree of buy-side sign-up, which is not for lack of commitment to the Code. There are genuine issues that we are trying to tackle," says Dimitrova.

Signed up or not, the Code does hold the buy-side's attention. "It has been top of the agenda for a number of years now," says Dimitrova. "The Global FX Code has very much preoccupied our members. Other priorities come and go, but our members have remained interested, and we do see them very engaged with it." Slow - or perhaps more accurate, gradual - adoption may be indicative not of lack of interest, but of how seriously the buy-side is taking the Code.



Not surprisingly given the scale and the complexity of the global FX market, the Code is principles-based.

PRINCIPLES-BASED HARMONY

The Code is voluntary. Would a more formal, more direct approach to regulation be appropriate? Such an approach would after all, obviate the need for sign-up. "We are very supportive of a globally harmonised approach to FX regulation, to avoid putting up any barriers to trading between the various jurisdictions.

New regulation can have unintended consequences, and is only appropriate where there is a clear market failure to address issues. The code is voluntary, but it is being implemented, and hopefully no other formal direct regulation would be needed," says Dimitrova. "So far, so good."

Further to this, and not surprisingly given the scale and the complexity of the global FX market, a notable feature of the Code is that it is principles-based. Dimitrova says: "The Code is sufficiently high-level to be

able to be applied across the board. It has to be principles-based, and thus high-level, so that it can be applied through many markets." The Code has to be sufficiently "flexible," says Dimitrova, to accommodate the scale and the diversity of the FX market. "I don't see any dangers in this; we've signed up to the benefits."

Generally, the Investment Association supports industry-led solutions to market problems. Dimitrova says: "The Code is demanding, and it has shown itself capable of bringing a newly harmonised set of rules to the FX market that hopefully offset the need for any other regulation in this space. We are engaging with our members actively, not just on the Code but overall on FX issues, and on an ongoing basis we consult with them and discuss whether there is anything that needs to be done to better address this market. We are supportive, and our industry is supportive, of the Code."

RegTech in FX Seizing the opportunity



Jeff Heine

FX market participants have traditionally approached technological solutions for regulatory compliance as a series of tactical projects where the goal is to implement the minimally viable solution in the shortest possible time frame. Given the rapid pace of regulatory change in the past few years, it is easy to see why many institutions have built infrastructure that is regional, siloed by asset class and product, reliant on manual processes, and expensive to update. Here we ask Jeff Heine, Chief Revenue Officer at Ascent RegTech to tell us more about how RegTech can help FX trading firms overcome many of the issues associated with tackling regulatory growth.

What are the key benefits that RegTech can offer for FX market participants and in what ways can it help them to avoid operating under stricter regulations than necessary?

RegTech is a category of technology that applies the next level of automation to create efficiencies, drive down risk, and help companies manage various parts of the compliance process such as horizon scanning, change

management, surveillance, and fraud prevention, to name a few. Ascent, for example, can keep FX firms from operating under stricter-than-necessary regulations by pinpointing a customer's specific obligations that need to be met in each jurisdiction, including the opportunity to more easily determine the group compliance obligations. This capability gives Risk and Compliance a clear, actionable view of their requirements without the hundreds or even thousands of hours of manual regulatory research and analysis.



Regulatory compliance is a hybrid approach between technology and people

What sort of technologies are being used to power RegTech in order to handle ever larger datasets and in what ways are they different and significantly more intelligent than in the past?

In the past, advances in cloud computing and big data enabled digitalization of compliance, helping



firms improve workflow efficiencies and glean insights from massive amounts of data -- but still requiring significant manual work to be done by people. Today, AI technologies like natural language processing (NLP) and machine learning (ML) allow us to automate many compliance processes, thereby reducing or even eliminating the need for manual, time-consuming review of regulation or other market data.

In this way, Ascent leverages NLP and ML to deliver targeted regulatory knowledge by intelligently mapping regulation to a customer's unique business profile. The next generation of technologies automate at the knowledge level, rather than just at the process level.

Please give us some examples of the type of features and functionality that RegTech solutions can now offer in order to help streamline compliance tasks and counteract increasing regulatory complexity?

RegTech can streamline compliance processes by 1) centralizing compliance tasks and activities that would typically be managed in disparate systems, 2) delivering customer-specific data, 3) automatically generating audit trails so firms can easily demonstrate compliance to auditors, 4) linking regulatory developments to a firm's internal controls, policies and procedures for full traceability, and 5) determining obligations per business line, product and other ways that map to an organization's business -- among many others.

Through these types of capabilities, RegTech can help firms untangle themselves from regulatory complexity and put them on the path towards an integrated, end-to-end compliance process.

Is automation of regulatory compliance an all or nothing function or is some form of hybrid approach possible where trading firms undertake some compliance procedures manually and leave the rest to the software?

Regulatory compliance is absolutely a hybrid approach between technology and people. There are aspects of compliance that are distinctly and forever human, such as working with the lines of business, planning and implementing compliance policy throughout the firm, and developing regulatory strategy. Compliance automation can be likened to having a near-perfect regulatory analyst on your staff -- one that can take over

manual tasks like finding and reading regulation and determining which apply to the business. This 'regulatory analyst' frees your people to tackle more value-add activities.

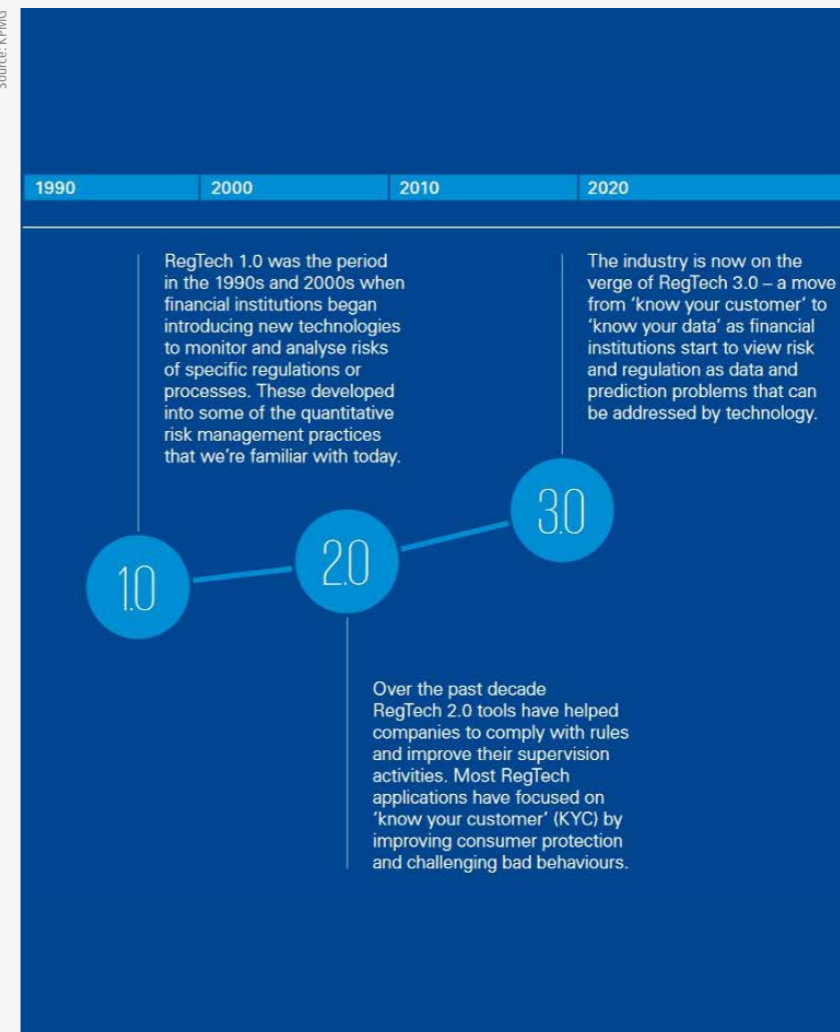
RegTech can help meet current compliance obligations but what about future risk? How can systems anticipate and help trading firms to guard against these threats?

RegTech is getting smarter all the time and a part of those efforts revolve around giving firms insight into upcoming regulation that is yet to be released. It's possible today to give customers insight into areas of regulator focus by tracking the



Compliance automation can be likened to having a near-perfect regulatory analyst on your staff

Source: KPMG



RegTech development

frequency of topics discussed in the market via proposed rules all the way through finalization, regulator speeches, risk alerts, and other regulator documents.

For example, RegTech can alert the customer that regulators have been increasingly discussing AML in the past six months, enabling firms to be proactive rather than reactive in shoring up their AML procedures. Additionally, businesses can use RegTech to scenario plan around risks when considering growth strategies and new products.

How important is collaborative work between leading RegTech providers and global regulators and in what ways can it lead to new solutions being developed that can provide better real-

time insights for firms operating across multiple jurisdictions and countries?

The rise of regulatory 'sandboxes' -- controlled environments where stakeholders can test innovations -- is evidence that the industry understands that greater progress can be realized when providers, regulators, and financial institutions sit on the same side of the table.

The Global Financial Innovation Network (GFIN) is a shining example of a regulator-led, collaborative initiative that's seeking specifically to bring RegTech solutions to market that can help firms manage compliance across jurisdictions -- a project that Ascent is proud to be a part of. Regulators recognize the challenges facing market participants

and are joining the cause to develop solutions that promote greater compliance.

What are the advantages in choosing a vendor solution for RegTech rather than trying to build one yourself and relying on in-house development?

In-house development can take years, and businesses run the risk of that product being obsolete by the time it's finally delivered. Firms can start using RegTech solutions immediately. It is also generally not a core competency of financial firms to build innovative solutions; RegTech providers are typically more nimble and can evolve rapidly with changing market needs.

Choosing between a RegTech solution or an in-house solution is often not a choice. Often times, it a blend of solutions that achieve business goals faster and more effectively.

What factors should influence the choice of a suitable RegTech provider to partner with?

Businesses should look for RegTech providers who are committed to helping them succeed past the sale. Effectively implementing a new technology (especially in a field as new as RegTech) starts with having a dedicated partner who understands the business challenges and can empathize with the team members who are adopting the new tool.

Also, there is a lot of emerging technology which can cause confusion. RegTech vendors that have a very clear purpose for why they use certain technologies generally stand out from the crowd, as the technology is the means to an end in solving a real business problem.

SWIFT works to unlock the value from its FX data

Robust and reliable data is a core requirement for participation in FX markets at any level and in any capacity. But where can such data be sourced in sufficient depth and in real-enough time to hold its value through any transactional or analytic requirement? e-Forex spoke to Juliette Kennel, Head of Securities and FX Markets, SWIFT, and Sam Romilly, Head of FX New Business Development, Capital Market, SWIFT, who can answer that question.



Juliette Kennel

SWIFT is uniquely placed to provide fact-based data products and market insights. The SWIFT network is used directly to confirm FX trades by 8,000 financial institutions who are connected to the network directly, and indirectly by an additional 2,000 corporates and investment managers.

These FX trade confirmations use the SWIFT message types MT300 and MT305, of which more than 1 million are exchanged each day. Juliette Kennel says: "We estimate that only around 10% of the total value confirmed by these messages is also settled via CLS, meaning that the rest of our dataset is unique to SWIFT and not available from any other source."



Sam Romilly

SWIFT also has a significant FX dataset related to transactional banking that allows an understanding of corporate sector flows. That comprises FX trades arising where clients of the transaction banks issue payment instructions that require a currency conversion. Kennel says: "These FX trades are largely managed through the use of a bank's in-house accounts so they don't go to the market. However, the resulting payment instructions are sent over SWIFT in the form of MT103 messages."

There is, of course, strong governance in place regarding the protection and confidentiality of SWIFT data. Kennel says: "The data belongs

to our member-bank community and SWIFT operates under strong principles that govern every aspect of our data services. Over the years and responding to user requests, the Board has approved the extraction of message data fields that have enabled SWIFT to develop a range of Business Intelligence (BI) tools to allow SWIFT members to better understand their business. This data is made available to our members, who have access to their own data, the data on the total market, and peer benchmarking on an anonymised and carefully protected basis."

INTEGRATION AND ANALYSIS

Data of such scope and quality is an asset to be used. Sam Romilly says: "Like all companies, SWIFT sees the potential for improving services and meeting customers' needs through the greater use of data. Our members are now looking for new datasets to help remain competitive and to manage risk. The SWIFT dataset is not limited to just the FX industry and our members have realised it can complement their own datasets to help them realise their own strategic and commercial objectives."

Latest technology has been used to extract the data and process the data

in a secure and confidential manner. Romilly says: "We also use a state-of-the-art tool to visualise the data for the customer who subscribes to our Watch Analytic products. However, the more advanced new technologies around AI and quantitative analysis are what our member clients would use to integrate and analyse our datasets together with their own data pools."

In 2017, SWIFT launched an FX peer-benchmarking service, which provides a view of an institution's ranking on a country, regional or global basis compared to anonymised peers across multiple permutations of segments, currencies and flows. This report was enhanced in 2018 with more granular data that identified the actual FX instrument types. Romilly adds: "This year we have worked with selected clients to identify the full value inherent in the FX dataset. We have been able to align our data with the clients' own business flows and come up with a common agreed set of assumptions regarding segments and definitions around how to classify and count FX instruments."

There's been significant interest. SWIFT's new data range promises to: help SWIFT users manage their business risk; help SWIFT users understand their competitive position; help the industry to better understand economic trends. Not surprisingly, SWIFT users have been quick to respond. Romilly says: "Data provided by SWIFT is perceived today as a valuable tool to analyse and forecast important economic trends. Studies conducted by SWIFT and shared with the community allow us to point to correlations between SWIFT traffic and markets' volatility, payment flows and interbank lending."

SWIFT's data can also prompt analysis. Romilly continues: "As with any dataset no-one really knows what they



SWIFT's data is seen as special because it is based on actual transactional data and not surveys

want to see in advance. It is only by looking at trends and movements that exceptions can be spotted and then deep dives into the data granularity can provide answers. This could be answers to questions such as 'Why did we lose market share in this period, or this currency, or this client segment?' Comparisons of an institution's own activities to what is seen happening in the total market can help drive commercial and strategic decisions."

TOWARDS A DATA-RICH FUTURE

SWIFT's data is seen as special because it is based on actual transactional data and not surveys, and because it comes from an independent source. Kennel says: "Overall the feedback is positive and customers see value in our dataset."

Appropriately, the development of the new service was collaborative with members from the outset. Kennel continues: "SWIFT set up a pilot project with five banks; we called them our Design Partners. They were provided with samples of the SWIFT FX dataset in return for their advice and ideas around how to enhance, process and present the data."

For the first time, it is now possible for SWIFT to show the relative percentage breakdown of instrument type for the global FX market. Kennel says: "The significance of this is that this data is now extremely useful and equivalent to the data held by each of our members. Before, when the individual instrument types could not be classified, it was at best just interesting."

Will SWIFT's data services be developed further in coming months? Yes. Kennel says: "There are three directions we will be following. The first is to make sure our data delivery is scalable and industrialised so that we can meet new client demand. The second is to continue to evolve our understanding of the value of the dataset and seek new ways to slice the data to reveal more of its value. And the third is to explore in the long term ways we could potentially work with data aggregators within the limits of our governance policy to provide new combinations of datasets and data services to our members."

The role of independent data in meeting regulatory obligations and helping to manage FX costs

It is important that asset managers are asked to measure their FX transactions against independent data to eliminate any accidental flattering of FX costs by managers. Once the costs are determined it is then a relatively simple task to begin managing them. The most important thing to recognise is that paying too much for FX, delivers no additional benefit for buy-side firms whatsoever. It's simply a drain on their portfolios. e-Forex spoke with Andy Woolmer, CEO of New Change FX, the award-winning FX data company to learn more about measuring and managing FX costs.



Andy Woolmer

Why are FX costs impossible to measure accurately without using independent, aggregated data?

FX prices are bespoke. Liquidity is fragmented across market makers and venues. Even when venues can offer anonymous streaming prices, liquidity providers widen their spreads for non-disclosed trading. This means that prices are either adjusted as a function of who the client is (for disclosed trading) and/or adjusted on a generic

basis (for anonymous pricing). To identify how much prices received are skewed away from the market clearing price one must use an aggregated rate (to reaggregate fragmented liquidity) and independently of the trading venue, to measure the skew.

Why does spread alone tell you nothing about your costs?

Spread is in fact a crucial measure of cost, but it is far from the whole story. Market impact costs dominate. Empirical client data from sophisticated hedge fund clients shows market impact costs are on average 2.5x spread costs. This means that liquidity providers (LPs) can discount spreads to close to zero for flow because the business model of market making has evolved beyond simply charging a spread to take on risk. LPs are better at monetizing the flow by clearing positions at a favourable price seconds or minutes later.

How easy is it for asset managers to get their FX transactions measured against independent data and what's involved with the process?

Measuring trades against independent data is straightforward. The challenge for Asset Managers is to ensure they are capturing all the relevant timestamps in their trading process. NCFX have simplified this by working with asset managers to automate the TCA process. NCFX does not require access to client data. Clients can compare brokers and platforms against the same independent rate, safe in the knowledge that their data is secure.

What does managing FX costs usually entail and in what ways is it more than just achieving better execution?

Managing FX costs means identifying the drivers of FX cost. The constraints

of the portfolio mandate determine the trade-offs that arise. The goal of TCA is to determine whether these trade-offs were efficient, providing critical feedback to adjust the mandate if it is needlessly wasteful of client capital.

In order to manage costs some FX trading firms take advantage of so called "free" TCA services. What is the rationale for choosing to pay for a TCA service that is external to trading and how can this help to remove any conflicts of interest?

As they say in Silicon Valley, if the product is free, then you are the product. Because 'free' TCA is generated from inside the cost chain, it cannot identify costs that are endemic to the trade process itself. The power of independent services is that they enable a comparison of trade processes against an external reference. Free TCA assumes there are no alternatives to the execution set up currently in place.

What sort of granular metrics can the latest generation of TCA toolsets now provide and what degree of automation is possible?

We now provide live benchmarks (every 50 milliseconds) into trading systems, so clients can monitor execution on a benchmarked basis in real time. The execution policy can then be assessed 'in flight' by an automated system to ensure compliance.

How can thinking about market impact help firms leverage TCA in order to be more discriminating in their approach to FX trading and what impact on costs would this have?

Trading in high impact venues, or with brokers that have high impact is



Managing FX costs means identifying the drivers of FX cost

very costly indeed. Identifying market impact and how it differs across venues is a crucial first step to cost reduction.

It is well known that traditional FX benchmarks have presented problems for investors but what attributes does a more meaningful benchmark need to have in order to meet regulatory requirements and what would it rely on?

The purpose of benchmarks is to provide a fair value for comparison. Benchmarks need above all to provide price transparency, and the process that determines the benchmark must be fair.

Regulators now demand the inclusion of surveillance capabilities that cover all scenarios including data sources. How much of a challenge is this for FX trading

firms and in what ways can the use of truly independent data assist them with their monitoring requirements?

Because FX prices are bespoke and fragmented, the challenge for FX trading firms is to identify anomalies in prices that are endogenous to the client's trading process. NCFX provides a simple way to assess whether quoted prices are within specified parameters.

What factors are encouraging more banks to look at using the NCFX regulated mid rates?

Banks need to show they are treating customers fairly. Transparency encourages participation which is vital for a healthy FX market, which in turn will generate increased readiness amongst clients to fully hedge, driving additional flow for the banks.

FX Market Data: Overcoming the challenges and unlocking the potential

It has become critical for increasing numbers of institutions across the FX market to have access to accurate market data to meet the growing focus on internal risk and control processes, regulatory compliance and the need to drive market analysis and profitable trading decisions. In today's competitive FX landscape, gaining and rapidly actioning insight into execution quality and operational efficiency are seen as key to gaining a trading performance advantage. We asked Louis Lovas, Director of Solutions at OneMarketData to provide some perspectives.



Louis Lovas

Market Data is a very high cost item for most institutions and that is exacerbated by the fragmentation of FX liquidity. Market data management means managing, consolidating, coalescing order books across providers for true price transparency. The creation of accurate and reliable price analytics and available liquidity for trade models and TCA are only possible with an aggregate market view.

goal of capital management to software development, maintain interfaces with market data and trading vendor feeds, wrestle with historical data storage, cloud vs. on premise deployments. It's an endless list. Success lies in the optimal blend of leveraging cloud infrastructure and commercial software with all the 'ilities. Data management platforms that offer the 'ilities' a set of core 'must have' functional capabilities - scalability, reliability/availability, maintainability/configurability/administration, security/entitlements, personalization/usability and of course performance. Everyone needs these ilities. Then leverage your human capital to build what you need.

We are in a new era of data-centricity when it comes to financial trading so what steps can FX market participants take to ensure they are investing in the right people and technologies to meet their data management requirements?

As firms look to invest in new technologies and the human capital to optimize that technology the right blend of build vs. buy is a key to success. There is a huge risk of getting distracted from the primary



Quants apply an empirically-tested and rules-based approach to exploit perceived market inefficiencies

How much of a threat is "information overload" to both sell side and buy side FX trading firms and what issues need to be considered to help them develop more effective enterprise wide data strategies?

The incredible growth of the FX market is undeniable. Yet, the salient fact is that all that data is messy. The financial practitioner's worst

fear is managing scale - spending more time with capture, storage and the infrastructure to process it all than actually analyzing data. The fragmentation of FX markets hides true visibility into order book dynamics and liquidity, while precisely coalescing the fragmentation increases the information glut, it also improves confidence in the results of backtesting trade models.

What technical challenges does the unique structure of the FX market create in terms of data capture and analysis and what solutions are being developed to overcome these?

Precision of time synchronicity is always a challenge when markets are desperate and separated by geographic distance. Accuracy of TCA / BestEx is dependent on both precision and synchronization.

More active alpha seeking firms use data as a fuel for their algo and HFT strategies. How important is the Cloud becoming for high performance Quantitative FX trading?

As more firms move from discretionary to systematic trading, sophisticated algos produce a more competitive environment and diminishing returns. That is the incentive to high-tune the algos through backtesting across deeper history. The storage and computation power required for that can only be achieved in a cost-effective manner on elastic Cloud. Large scale backtesting demands hundreds of CPU cores but only for short bursts. The elastic (scale up/scale down) capability of Cloud is well suited to this need.

In what ways are leading providers of live and historical market data setting new standards by

TWO USER CASES ILLUSTRATING SOME OF THE CHALLENGES OF MANAGING DATA

Enterprise Data Warehousing

With an ever-expanding set of data and analytics creating a greater challenge to find alpha, quants demand accurate time series data and can benefit from removing data management responsibilities. Enterprise data warehousing is a valuable well of efficiency companies can pull from in such times. Big Data is nothing new to the financial services industry as the markets produce over 50 TB of data per day. The ability to collect and aggregate the data once for all use cases is a daunting challenge as each application requires different fields and frequencies of the data

Quantitative Research

Quants apply an empirically-tested and rules-based approach to exploit perceived market inefficiencies manifested by human behavior, geopolitical events and market structure. With tighter spreads, thinner margins and lower risk appetite, quantitative traders are exploring more cross asset trading models and cross asset hedging. Consequently, the quest for new and revised models is never ending. The side effect of this is increasing demands for deep data over longer time periods across a multiplicity of markets -equities, futures, options and of course cross border currencies. This data dump is the fuel feeding automation technology, quant's research and strategy modeling tools. That technology plays a critical role in the trade lifecycle. Its fast paced evolution goes hand-in-hand with innovations in trading.

Data accuracy is vital to determining outcomes; asset prices cannot be inaccurate or missing. It means dealing with the vagaries of multiple data sources, mapping ticker symbols across a global universe, tying indices to their constituents, tick-level granularity, ingesting cancellations and corrections, inserting corporation action price and symbol changes and detecting gaps in history. Any and all of these factors are vital to the science of quantitative trade modeling. With over five billion options contracts traded in 2014, the reliability of the resulting analytics such as implied volatility, delta and gamma for option strategies depend on underlying data accuracy and reliability. Big Data is about linking disparate data sets under some common thread to tease out intelligible answers to drive the creation of smarter trading models.

delivering FX data with enhanced attributes for use in trading models, algorithms, and analytics?

Historical market data and elastic Cloud as a managed service is available from a number of vendors today. Market history includes tick-by-tick, end-of-day, consolidated

depth-of-book for Spot and Derivative markets. These same vendors enhance that Data-As-A-Service offering with unique hosted solutions for BestEx, TCA, Surveillance and backtesting. On-boarding new clients require minimal effort, as the old-school (on premise) deployment headaches are completely avoided.

Exploring the history and key focus of the BIS Triennial Survey

Earlier this year the Bank for International Settlements (BIS) launched the 12th Triennial Central Bank Survey of Foreign Exchange and Over-The-Counter (OTC) Derivatives Markets. Conducted every three years since 1986, the Triennial Survey is the most comprehensive source of information on the size and structure of global foreign exchange and OTC derivatives markets. It aims to help central banks, other authorities and market participants monitor developments in OTC markets and inform discussions about reforms to OTC markets. As we await the preliminary results for turnover which are due to be published by the BIS in September 2019 we asked Andreas Schrimpf, Principal Economist, Secretary to the Markets Committee at the BIS to give us a little background information about the survey and its history.



Andreas Schrimpf

Foreign exchange (FX) spot and derivatives markets are some of the world's largest and most active financial markets. However, given its organisation as an OTC market with dealers at the core and highly fragmented liquidity, it has always been a challenge to obtain an accurate perspective on activity and the structure of the market.

Every three years, the BIS conducts what is in essence a "census" of the activity and structure in the global FX market via its Triennial Central Bank Survey of Foreign Exchange and Derivatives Markets (widely known as the "Triennial"). It is the most comprehensive effort to collect detailed and globally consistent information on trading activity and market structure

of one of the world's largest and most active OTC markets.

The history of the survey dates back to 1986 – a time prior to the advent of electronification when markets were much more opaque than they are now. The main data in the Triennial survey cover turnover in 39 currencies and 47 individual crosses. Turnover data are broken down by instruments: Spot, FX swaps, forwards, currency options, currency swaps. The survey also provides a breakdown of turnover by counterparties: Dealers, other financials, non-financials (mainly corporates). The survey also allows to shed light on trading volumes from a residence basis and hence allows to track for instance how volumes evolve across different financial centres.

MARKET STRUCTURE

The Triennial Survey also provides other very useful information for changes to the market structure. In particular notable aspects of changes in trading technology are the rise in the share of electronic and algorithmic trading, changes in order types and matching mechanisms on trading venues.

12TH TRIENNIAL

The 12th edition of the Triennial was conducted in April 2019 and covered more than 50 countries. Central banks in these countries surveyed more than 1,200 reporting institutions (residence basis).

The previous survey, in April 2016, showed that trading in foreign exchange spot and OTC derivatives markets averaged \$5.1 trillion per day. Data on turnover in foreign exchange and OTC interest rate derivatives markets was collected from financial institutions in April 2019. Data on the outstanding notional amounts and gross market values of foreign exchange, interest rate, equity, commodity, credit and other OTC derivatives was then collected at the end of June.

Preliminary results for turnover will be published by the BIS in early September 2019, and for amounts outstanding in early November 2019. The final results will be published in December 2019. The results of previous Triennial Surveys are available on the BIS website: bis.org/pub/rpfx16.htm.

Technology – Key to transforming the emerging market payments landscape

Crown Agents Bank (CAB) has been a trusted partner to frontier market central banks and financial institutions for decades with a unique expertise in these markets. Serving a wide network of partners across Africa, the Caribbean, parts of Asia and the Pacific islands CAB now offers a range of solutions encompassing foreign exchange, international payments, pensions and payroll payments and trade finance. We talked to Steven Marshall (Chief Commercial Officer) and Colin Digby (Head of Banks and Non-Bank Financial Institutions) at the firm to discover what factors are influencing the fast-developing payments landscape across the emerging markets (EM's) and what role technology will be playing here in the future.



Steven Marshall

Why are the EM's going to play a central role in driving a technology-led transformation of the payments landscape over the next few years?

SM: Many EMs currently have high mobile penetration - the number of mobile internet subscribers in Sub-Saharan Africa has quadrupled since the start of the decade - but still have a large proportion of people who are underbanked and underserved by financial services.

Technology can play the most transformational role in these markets by helping to move money where it



Colin Digby

previously either wasn't possible or where the process of change may have been glacial.

In more established financial markets, the infrastructure has often already been developed and there's typically the challenge of legacy architecture and processes to overcome before new systems can be integrated. In many EMs and frontier markets, where infrastructure might not have developed to the same extent, there's an opportunity to innovate with fewer constraints. There's also in many ways a greater need; the use of technology in EMs can mean the difference

between having access to payments services or not. In other markets, new developments might simply provide an additional choice of service option.

What issues have traditionally hindered global businesses wanting to make payments into frontier and developing markets and how is CAB helping them to overcome these challenges?

CD: There are two key challenges that tend to work against businesses attempting to make payments in frontier and developing markets. The first is the difficulty of getting money into some of the harder to reach territories. Where access to USD is limited, for example, the process is complex and technically problematic. The second is a lack of developed relationships in these markets.

It can be very difficult to operate without the trust of local government, central banks and commercial banks; in order to serve these markets properly, you need strong relationships and a thorough understanding. This is where Crown Agents Bank is

uniquely positioned, having built up a network and expertise over nearly two centuries in these markets. As a result, CAB has unique levels of access to liquidity across a wide range of EM currencies and we therefore use our expertise and network to offer businesses essential market insight.

How is CAB looking to leverage its local customer franchise and FX and settlement network across frontier and EM's to optimise its B2B offering and what benefits will this deliver?

SM: Utilising our extensive relationships is fundamental to optimising our B2B offering. We've worked with both central and regional banks over decades and this local understanding and trust enables us to provide consistent access to liquidity and reliable delivery of funds on the ground. In markets which can experience high levels of uncertainty, reliability for the end user as well as the local economy is crucial.

Many governments in EM regions are keen to boost financial inclusion and reduce the use of cash. In what ways does FinTech innovation help to achieve these?

SM: By integrating financial products with popular technologies such as mobile, services that were impossible to reach for the majority via traditional channels, become accessible. In addition, banks and other financial institutions can benefit from a more efficient foreign exchange process brought about by new technology, and this in turn, makes it possible for these organisations to deliver a wider range of financial products to the consumer. We recently acquired Segovia's B2B payments platform, precisely because we realised a need to combine our expertise and network with the latest technology platforms,



Digitalization cannot be ignored and so financial institutions need to adapt and embrace the potential that technology offers

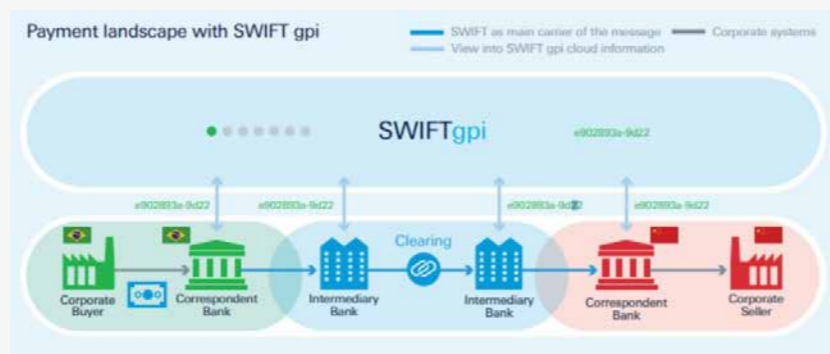
to provide a complete solution to our customers.

Through the use of technology to improve financial inclusion, there will be a natural reduction in the amount of cash exchanged, as transactions are increasingly processed digitally. The benefits of reducing cash through the use of mobile wallets are copious, ranging from reduction of tax evasion to increased ease of use for payments.

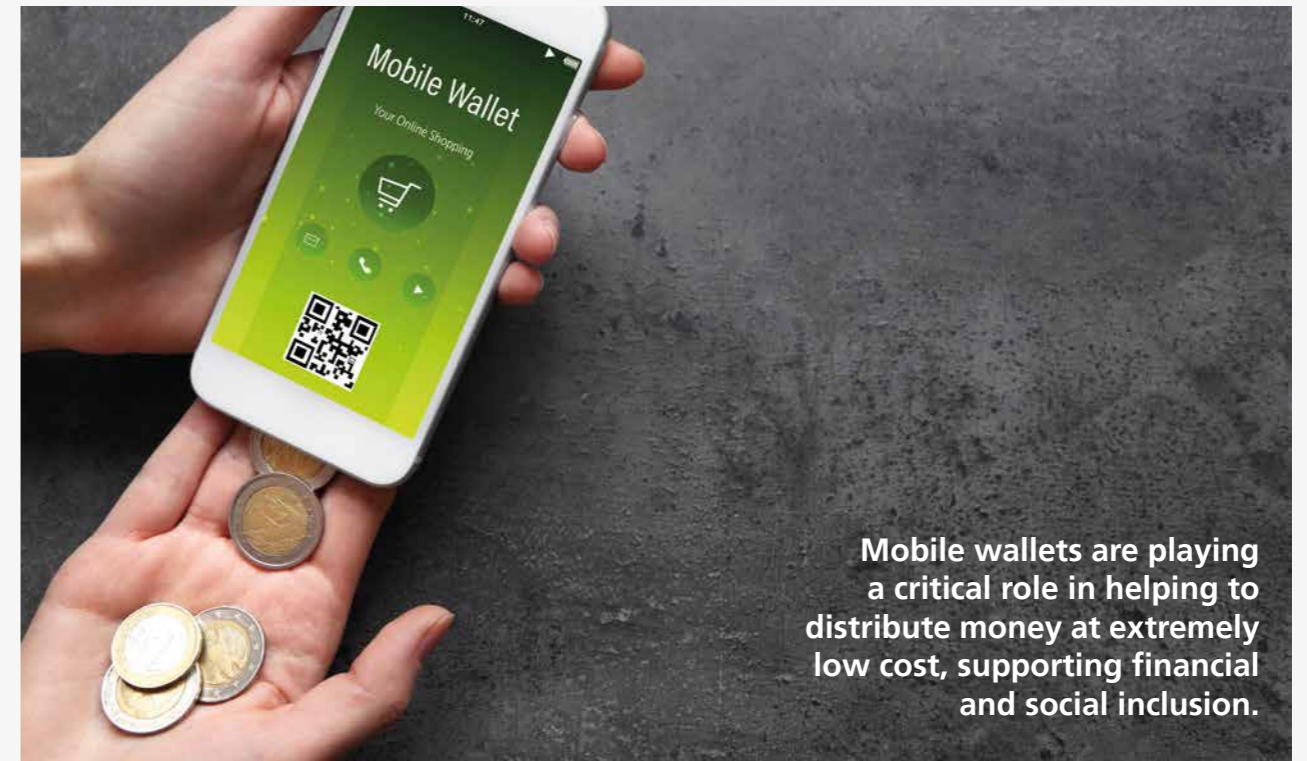
In what ways are new technologies being deployed to make it more economically viable to service the 'unbanked or 'underbanked' populations of EM economies?

CD: Technologies like our EMpowerFX platform allow the automation of currency exchange, so we can reduce the cost and time it takes for businesses and other financial institutions to access currency. This has a knock-on effect for SMEs and end consumers, who in turn will have access to financial services without incurring unnecessary charges.

Mobile wallets are also playing a critical role in helping to distribute money at extremely low cost, supporting financial and social inclusion. Through our recent acquisition of Segovia, we now have direct access to make payments from



Crown Agents Bank has joined SWIFT gpi to deliver an improved cross-border payments experience to their range of clients. SWIFT gpi dramatically improves cross-border payments across the correspondent banking network.



Mobile wallets are playing a critical role in helping to distribute money at extremely low cost, supporting financial and social inclusion.

charities, businesses and remittances for 11 African markets.

The payments business, traditionally dominated by banks, is witnessing increasing competition from new entrants including disruptors. What advantages does this have for the EM's?

CD: As the industry evolves and markets are disrupted, many newcomers are also looking at underserved markets and regions that could offer high-growth. We believe that this will lead to greater investment in these markets, encouraging established banks and financial institutions to innovate and therefore enabling financial inclusion. Equally banks may choose to partner with some of the innovators; it all leads to greater choice, lower cost and higher levels of inclusion.

What role can vendors that specialise in niche value-added services in the payments processing chain play in helping to spearhead innovation as alternative system providers in the EM's?

SM: Niche often translates to expertise, which is what is really required for these markets. Ensuring that solutions and services cater to the end user is much easier when you're working on one part, rather than trying to address the full end to end process.

What steps can national regulators and industry associations in the EM's take to help build security and trust in new e-payments systems?

SM: Working closely with communities and government organisations is crucial to establishing trust and uptake. From our experience industry associations represent a wide population of interests and can therefore offer real insight into what people in EMs need from e-payments systems.

Crucial steps that these groups can take include being open to communications, setting standards, training and encouraging innovation and ultimately offering their invaluable expertise to best implement e-payments in their markets.

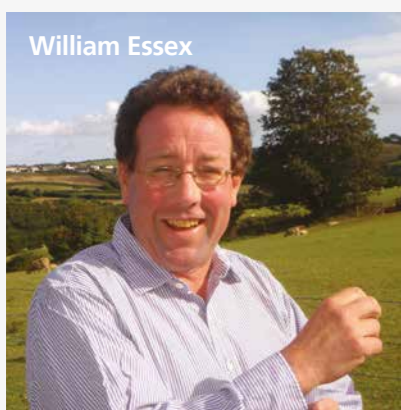
Payment FinTech in many EM's has leapfrogged from branch banking to e-banking and now mobile money with a corresponding reduction in the cost of serving customers. What implications does this have for the future of more traditional banking models and channels in these regions?

CD: Having been in many of these markets over decades, we're used to seeing how organisations adapt to everything from industry trends to natural disasters. As with any big disruption, natural or otherwise, digitalization cannot be ignored and so financial institutions need to adapt and embrace the potential that technology offers or risk becoming increasingly irrelevant.

We are increasingly seeing demand to support mobility and this manifests itself in the need to service cross border transactions. This is why CAB has invested heavily in its network across emerging markets and more recently, in mobile payments. We believe we are well placed to service this next generation of demand.

FinTech and its role in the future-proofing of FX

Where do we invest next? For FX-market participants working towards digital transformation, one of the simplest challenges is also the greatest: technology doesn't stop evolving. The flagship investment of today might be the legacy system of the day after tomorrow. William Essex discusses the future-proofing of FX.



William Essex

In the global FX market today, solutions don't disrupt. Failed interfaces disrupt. Incompatible cross-border regulatory requirements disrupt. Effectively unknowable end-clients – if they're allowed to become clients – disrupt. Human error still disrupts, and systems can fail to communicate effectively with each other. Fraud happens, and compliance failures can still be expensive. But "disruption" – the word itself – is a feature of yesterday's IT industry. Today, the focus is on harmony within

the ecosystem. Inter-operative but functionally discrete systems aren't islands; they're part of the whole.

SECURITY

So where to invest? Security is, as always, the immediate first answer to that question – thus, compliance, KYC, AML – and security is all the more glaringly obvious as a potential "pain point" in the globally distributed, multi-faceted, vast market that is FX. Security-oriented solutions are available, of course. SWIFT offers the KYC Registry, for example, and uses AI, machine learning and other measures to support AML. But there's another point to be made here. Discussing trade-compliance software company Napier's recent partnership with data-provider Refinitiv to "offer a next-generation transaction monitoring solution", Julian Dixon, CEO, Napier, starts by saying: "We know technology alone isn't the answer."

Do we? Napier continues: "The answer is also about how technology is implemented to underpin policy, process and procedure." It's not surprising, then, that the stated theme of Sibos 2019 is to "explore the impact of new technologies on infrastructures, value propositions and business models and identify the culture, skills and working practices that organisations need to maximise the potential of both human and machine capabilities". The same point was made at Innotribe in 2018: to maximise the benefit of the technology, factor in the people. "We are only as good as the team," says the introduction to Innovify's white paper Blockchain: driving innovation in the FX industry.

BLOCKCHAIN & DLT

That said, today's brief is to direct the tech spend. One suggestion made half-seriously by a vendor: put it where you find the words "end

to end". End-to-end delivery of data; end-to-end carriage of due-diligence meta-data; end-to-end clarity and of course transparency. Interoperability of systems is also key. APIs have been widely discussed as a mechanism for implementing effective communication, but if we're talking about "the globally distributed market that is FX", perhaps we should also consider the globally distributed solution that is blockchain.



Accenture's Blockchain for Contracts offers a "smart" alternative to paper contracts

HSBC's FX Everywhere DLT-based solution settled "more than three million FX transactions and made more than 150,000 payments worth \$250 billion" to January 2019. Richard Bibbey, Interim Global Head of FX & Commodities at HSBC, commented at the time: "We conduct thousands of foreign exchange transactions within the bank, across multiple balance sheets, in dozens of countries." FX Everywhere "drastically increases the efficiency of these internal flows," he continued.

And if we're looking at DLT/blockchain, maybe we should also acknowledge that other elephant that's just wandered back into the room: cryptocurrencies. Facebook's Libra is a currency-basket-backed payment unit based on a shared-ledger solution that is narrower than the conventional cryptocurrency model for DLT. Debate is ongoing around Libra, which has been described as being issued by a "private central bank", and at this stage, perhaps today's interim conclusion should be: it might happen, and if it does, it's likely to be priced in USD. Cryptocurrencies are blockchain-based and they do have the potential to play a significant role in the management of currencies across borders (to attempt a neutral role-description), but it's easily forgotten that they are also functional components of the blockchains that they express.

Ether, for example, is the "lubricating oil" of the Ethereum network, in the words of co-founder Vitalik Buterin. Among solutions that are already with us, blockchain-based smart contracts offer the prospect of a programmable, irrefutable agreement with an if/then conditional built in.

"The proponents of smart-contract solutions typically envision removing intermediaries through their solutions to achieve greater efficiency while maintaining auditability of the transactions," says David Treat, Managing Director, Accenture Capital Markets. Treat argues for centrally consolidated sets of rules, with message-based DLT/blockchain solutions to achieve efficiency, control and transparency gains. Accenture's Blockchain for Contracts offers a "smart" alternative to paper contracts; terms and conditions can be updated by mutual consent – irrefutably – on the blockchain.

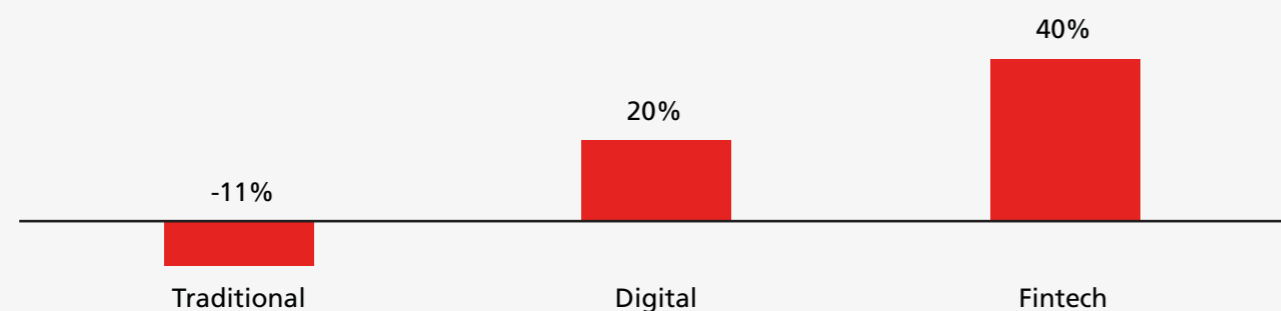
WHERE TO INVEST

Technology takes data, turns it into information, and delivers knowledge. Far up at the top of this "DIKW Pyramid" is wisdom. But for our purposes, the more significant feature of the structure is that data underpins everything else. AI, and specifically machine learning, grapple with the complexities of FX while winning easily at Poker, Chess and Go. Effective data

analysis answers all questions – except one: where to invest? For that one, we turn to Accenture's report The Digital Fix. "M&A is increasingly about acquiring digital capabilities," says the report. If you don't know what to buy, buy a company that does – but hurry. Among current opportunities, Mosaic Smart Data has just successfully closed a \$9 million funding round. "Mosaic Smart Data's mission is to empower financial market professionals with usable, data-driven tools to ask the questions they need answered and to receive those results in a language they can understand," says Mosaic founder Matthew Hodgson.

Missed it! And look... Airwallex has raised \$100 million; Koku's raising finance; Neo ... oh yes, and FIS bought Worldpay. Banco Santander has just announced plans to invest \$22 billion in digital transformation over the next four years, and the major banks' "utility settlement coin" joint project is still ongoing with a projected launch date in 2020.

The party's started, and if you look at where much of the FinTech is based, it's happening in London. Julian Skan, Senior Managing Director in Accenture's Financial Services Practice and co-author of The Digital Fix, concludes: "Banks that use digital as a fix for their current situation open an entirely new realm of possibility."



Future growth value analysis: traditional, digital and fintech (% of enterprise value, 2017)

Source: Accenture Research analysis on Capital IQ data, March 2017

OTCXN - showing us the power of the Blockchain in action

OTC Exchange Network (OTCXN) is a global liquidity aggregation and exchange platform for both digital and traditional assets. All trading, clearing, settlement and lending on their network is powered by proprietary blockchain technology which the firm developed specifically for institutional trading. We asked OTCXN's CEO, Rosario Ingargiola to tell us more about this.



Rosario Ingargiola

What are the main benefits of leveraging blockchain technology for electronic trading applications?

The automation that's possible with digitized assets, natively digital agreements (e.g., smart contracts) and the programmatic enforcement of obligations, including making payments without reliance on paper contracts and threat of litigation, drastically reduces cost and friction and can actually grow the overall market size and exponentially increase liquidity. Provability provided by digitally signed operations can eliminate the need for trust and reduce costs associated with solving for trust, e.g., "renting" the balance sheet of a Tier-1 bank to stand behind when facing counterparties.

Why is your platform so unique and what does its blockchain backbone enable it to do?

We provide technology infrastructure to clear and settle transactions between counterparties instantly with zero risk, and perhaps most importantly, without becoming a counterparty to the trades or using our own balance sheet. This same blockchain-based way of managing collateral makes it possible to institutionally crowdsource a virtually unlimited balance sheet for things like margin financing across a much more diverse group of providers.

How does your system work and what are the key steps involved?

Multi-Custodian Blockchain Network:

We built a network of the most trusted, regulated custodians and give them our blockchain solution.

Tokenization: Custodians tokenize (digitize) assets they hold on behalf of their clients. This can be any asset like Bitcoin or USD and could just as easily be US Treasuries, Gold or even a Credit Line.

Issuance: Assets are provably issued (represented) onto the custodian blockchain ledgers.

Pre-trade Risk Check: We read the ownership of tokenized assets into real-time, pre-trade risk on our global exchange network.

Connect: Our institutional-grade exchange and block trading platform connects clients to freely trade these digitized assets.

Match/Clear/Settle: Matched orders are executed and instantly cleared and settled on our custodian blockchain ledgers using an atomic swap (concurrent transaction) that guarantees settlement finality.

Update: Asset balances are updated in real-time on the trading network so clients can instantly re-trade assets without any delay.

How does your technology help to solve many of the challenges facing institutions in the cryptocurrency space?

The primary barrier to adoption by institutional investors – not prop trading firms, but fiduciaries managing other peoples' money – is the counterparty and settlement risk in the crypto space.

How can a fiduciary enter into a block trade with an OTC desk where they have to send funds first and hope for the digital assets to be delivered?

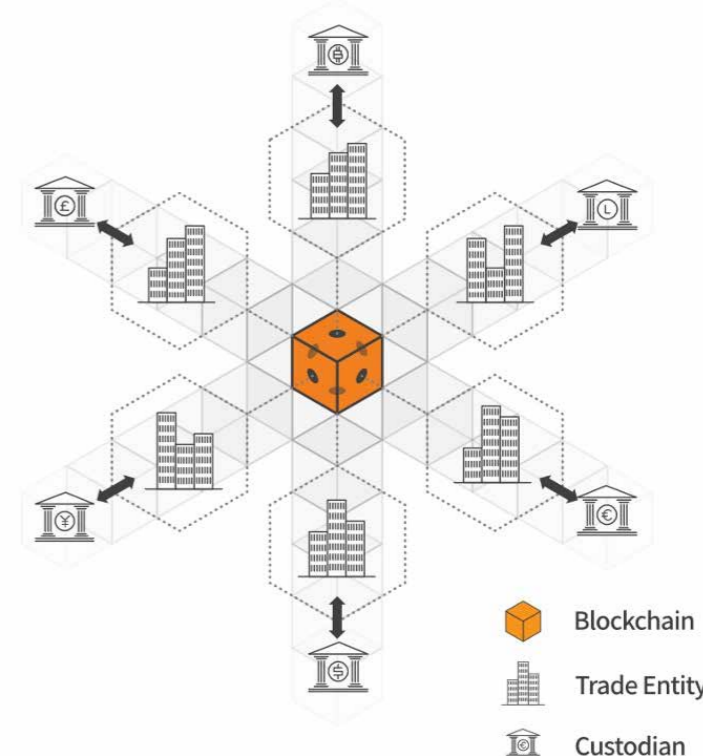
The second major problem is liquidity fragmentation. How does a large traditional asset manager make investments at scale without tradable liquidity aggregation? Our competitor's aggregation solutions force you to either give your assets to them (upstart exchange or agency broker) so they can trade with other unknown counterparties on your behalf, or, you have to have your own direct account and assets deposited at each underlying exchange and a credit line with each market maker and bear the counterparty and settlement risk. In both cases, counterparty risk is unacceptably high for a fiduciary and you will face limitations around tradability and movement of the assets.

Only an instant clearing and settlement solution that operates on provable assets at a neutral, regulated custodian can solve these problems, and that's what we've built. Our multi-custodian blockchain network is able to deliver a fiduciary-grade solution without our holding client funds or becoming a counterparty to the trades and without the aforementioned risks and limitations.

What proprietary blockchain-based solutions have you developed especially for Custodians and why is it so appealing to them?

We are providing custodians with a complete turn-key asset digitization and blockchain-based ledger system which is integrated into all of our products and services that facilitate the complete secondary market trading lifecycle. And it connects their clients to the clients of other custodians so that they can trade without assets leaving the respective custodial wallets.

The most exciting new product for custodians is our Cross-Custodian



OTCXN's unique technology solution for atomic exchange of Fiat and Crypto

Net Settlement capability. This allows custodians to initiate and complete net settlement transactions with each other on behalf of all clients in the aggregate. In a future release, clients will be able to make self-directed payments of fiat, crypto or any digitized assets cross-custodian, which has profound implications on payments, which is a business line we will enter in the future.

Custodians generally appreciate our zero barriers to entry model that they do not have to do any technology or integration work to get started and go live. We deliver the solution for free and we pay them a revenue share on trading transaction fees, which is very important given that custody fees are trending to zero.

What are the advantages of having an immutable record of all transactions on a proprietary blockchain layer?

The primary advantage is provability and the elimination of trust

dependencies. The consensus mechanism between ourselves and the custodial blockchain ledgers, for example, allows the network to know if a custodian altered their ledger. If they did, or if the music ever stops, there are multiple parties with a verifiably accurate and identical copy of the golden source of truth.

In what ways can we expect to see Blockchain technology being exploited still further to support both FX trading and the fast-evolving world of digital assets?

One of the things we are most excited about is supporting spot FX trading with leverage where one or both counterparties do not have a Prime Broker and without credit intermediation from a Prime-of-Prime, while completely eliminating counterparty and settlement risk. We will of course continue to layer on additional services like lending and payments, as well as support for credit-based trading in crypto and FX that are dependent on blockchain.

Improving liquidity management - can the industry rise to the challenge?

Effective liquidity management - and in particular, the management of intra-day liquidity - is a high priority for banks. It's also a focus for regulators. Why is this, and how can banks respond cost-effectively, compliantly, and above all in ways that enhance their competitive edge with clients? e-Forex went to Angus Scott, Head of Product, CLS Group, for the answers.



Angus Scott

Liquidity is an essential resource in enabling banks to respond to their clients' requirements for faster, more certain and cheaper payment and settlement services. Initiatives such as SWIFT's Global Payments Initiative (gpi) are moving the dial in terms of the efficiency of cross-border payments - but as the operating model improves, the time available to organize liquidity to complete the payment shrinks.

At the same time, post-crisis regulation puts an ever greater premium on effective liquidity management. Having lived through a period of unprecedented access to liquidity in major currencies due to quantitative easing, the banking community is now anticipating a return to more "normal" conditions as central

banks begin to scale down or roll back their QE programs.

The US is furthest along this path. Angus Scott says: "The Federal Reserve's balance sheet has declined from a peak of USD4.5 trillion in January 2015 to USD3.8 trillion in June 2019 as a result of its Balance Sheet Normalization Program, which started in October 2017. The Bank of England and the European Central Bank have also ended their programs of asset purchases."

As the availability of central-bank liabilities decreases, private markets will need to fill the gap: banks with surplus liquidity will need mechanisms to lend it to those who require it. However, regulatory reforms implemented since the crisis have reduced the availability of unsecured lending markets, and collateralized markets (such as repo) are expensive in their balance-sheet impact.

THE LIQUIDITY COVERAGE RATIO GETS STRICTER

Post-crisis regulatory reform requires banks to take a far more prudent approach to ensuring that they have access to adequate liquidity. Scott says: "A number of measures address liquidity, including the Net Stable Funding Ratio, which encourages

banks to match the terms of the assets and liabilities on their balance sheets, and BCBS 248, which stipulates intraday liquidity monitoring requirements. One of the most important measures is the liquidity coverage ratio."

In its basic form, the LCR requires banks to have sufficient high-quality liquid assets (HQLA) on their balance sheets to cover their obligations for a thirty-day period in which they would not be able to rely on the markets for funding. However, a number of supervisors - including the Federal Reserve, the Bank of England and the ECB - have adopted a stricter approach as part of the Supervisor Review stipulations under Pillar 2 of the Basel III framework, explicitly to strengthen their focus on banks' abilities to meet their intraday obligations.

Scott says: "Under its Pillar 2 Statement of Policy, the Bank of England expects the banks it supervises to consider additional factors such as peak liquidity needs over the thirty days, not just the position on day thirty; potential challenges in monetising HQLA in stressed markets; and the possibility that access to FX markets might be reduced. Further,



Post-crisis regulatory reform requires banks to take a far more prudent approach to ensuring that they have access to adequate liquidity

it requires that banks consider not just their contractually committed payments, but also uncommitted payments if not making those payments could damage the bank's reputation or market perceptions of its solvency. Finally, the Bank of England also expects banks to focus explicitly on intraday liquidity, ensuring they have sufficient reserves to meet their daily settlement obligations, and that these reserves are separate from the reserves held to meet wider liquidity resilience requirements."

The costs of meeting these expectations are high, and there are also opportunity costs. Another post-crisis measure, the leverage ratio, requires each bank to hold a minimum of 3% equity against its assets on a non-risk-weighted basis, rising to 6% if it is a global systemically important bank (G-SIB). Having to hold large portfolios of high-quality but low-yielding assets in their liquidity reserves prevents banks from deploying their equity to more profitable opportunities.

OPTIMIZED INTERCONNECTEDNESS

But this isn't the end of the story. Domestic infrastructures, typically in the form of the real time gross settlement (RTGS) systems run by central banks, are critical for efficient liquidity management and many are undergoing renewal programs designed, among other things, to

increase liquidity efficiency. For example, the ECB is building a liquidity management layer to underpin its three major payment platforms: TARGET2 (its high-value RTGS system); TARGET2-Securities (i.e. T2S, its securities settlement system), and Target Instant Payment Settlement (i.e., TIPS, its retail instant payment platform).

Similarly, the Bank of England, as part of its RTGS system renewal program, is both reviewing the operation of its liquidity-saving mechanism and exploring innovative new concepts, such as functionality to support the synchronization of payments between systems.

Yet, in a global context, even RTGS systems represent sub-systems within the wider network. Scott says: "True optimization needs to factor in the interconnectedness of these sub-networks and the central banks, commercial banks, currencies and HQLA of which they are comprised. We are starting to see this panoptic view emerge. CLS, as the global hub of cross-currency settlements, is one of the bridges that link domestic networks together."

CLS was established with the aim of mitigating settlement risk in the FX market. Scott continues: "The multilateral netting component of CLS's payment-versus-payment settlement service, CLS Settlement,

significantly reduces the amount of liquidity required to settle each day's FX business and it also offers a key channel for banks to move funds around to meet their payment obligations in different currencies."

FROM THE BACK ROOM TO THE BOARDROOM

Subject to receipt of any necessary approvals, is CLSNow. Scott says: "CLSNow addresses a number of different requirements from banks. At its root, it is a settlement service that will enable banks to exchange currency positions with mitigated settlement risk on a near-real-time basis. This could support many different parts of a bank's business, from the treasury looking to secure its position at the end of day, to the capital markets middle office that needs to post variation margin across different currencies, to the transaction bank that needs to fund nostro accounts at agent banks to meet client payment obligations."

As Scott goes on to suggest, there are various parts of the industry that could benefit from CLSNow. "Mobilizing liquidity effectively for clients while managing it prudently and keeping costs down has significantly increased the challenge and moved it from the back room to the boardroom. If the industry can rise to the challenge, the prize is a financial system that better serves its clients at lower risk to society," he concludes.

Exploring the shifting ecology of FX Liquidity and future role of banks as providers.

e-Forex talks to Dmitry Ilyaev, Head of eFX and Spot Trading at Commerzbank



Dmitry Ilyaev

A recent poll found that liquidity concerns have taken over from best execution requirements as being the greatest concern for FX traders. Are you surprised at that and why is the FX liquidity that the investment community requires not always there?

FX is an opaque, decentralised market prone to information asymmetry between participants. Visible liquidity is not necessarily dealable, and even when it is, there are other considerations outside of 'best price', such as market impact and opportunity cost of rejections, that a liquidity consumer may need to consider in order to reduce their execution costs. The proliferation of liquidity providers which are not holding risk means that a liquidity consumer who is not asking the right questions when constructing their liquidity stack may find it difficult

to fulfil their liquidity requirements and ultimately pay a higher price to transact FX.

In what ways is FX liquidity provision becoming more challenging for principal market makers?

The industry trend is towards reduced ticket sizes and algorithmic execution. Principal market makers therefore find themselves fighting for client flow in an environment of intense competition and diminishing margins. Against this backdrop, it is important for a market maker to make ongoing investments to their technology, IP, low latency networks and staff in order to remain relevant.

In what ways is the changing FX Liquidity ecosystem forcing buy-side firms to adapt their trading strategies to achieve best execution?

Buy side firms looking to control their FX execution costs increasingly have to engage with their liquidity providers in a more sophisticated way. This means adopting a more data driven approach to decision making, both for optimising execution strategy parameters and for deciding on which liquidity providers to include in their liquidity stack. For clients utilising third party execution algos, it is important to quantitatively evaluate the performance of each provider's algos against an objective benchmark, controlling the results for prevailing market conditions at the time of the execution.

Could we start to see new trading models emerge to try and solve the problem of shallow liquidity? For example with a form of liquidity aggregation by extending the time window for liquidity sourcing?

Boosting access to liquidity by simply increasing the number of liquidity sources available to the execution strategy can be challenging. Including liquidity providers who don't have the scale to warehouse risk can amplify market impact and discourage genuine providers from showing competitive prices. Extending the time window of execution is one way to alleviate potential market impact, but this will always expose the execution to higher levels of market risk. One potential solution is to source liquidity from correlated products, which would



The onus is on market participants to conduct their own due diligence when cultivating their pool of liquidity for trading

allow the participant to slow down the execution in the target market while controlling the overall portfolio market risk.

Why have many buy-side firms, especially those moving large orders, become more sensitive to the concept of depth-of-book liquidity rather than just top-of-book liquidity?

Many buy side firms are justifiably wary of information leakage through transacting numerous smaller child orders at the top of the book. As a way of addressing this, some choose to deal in size through several layers of liquidity. To combat the steady decline of liquidity in the primary venues, these dealers prefer to build up their own custom pools of liquidity made up of various non-firm ECNs and direct API LPs in order to boost available liquidity at depth. For this to work effectively, dealers must ensure the constituent sources are independent. A few large LPs may dominate liquidity provision across multiple venues, and seemingly independent LPs may use the same sources to construct their prices, so trading with one of them may signal that information to others. In such a complex, interconnected ecosystem, a deep order book

can sometimes be a mirage, with duplicated non-firm liquidity often leading to disappointing fill rates and excessive market impact.

FX remains as fragmented as ever and the quality of trading venues varies as does their liquidity profiles. How much of a challenge is it for banks and clients alike to benchmark the various liquidity pools available?

Over the last few years, venues have started to acknowledge that to achieve sustainable growth they need to look beyond volumes and encourage responsible trading behaviour from all participants. Conversations between the venue operators and market participants have shifted from top of book spreads to fill rates and now to minimising market impact and information leakage.

This is a positive development for the industry. However, the onus is on market participants to conduct their own due diligence when cultivating their pool of liquidity for trading. Important decisions need to be made around choice of venue, mix of LPs on those venues, location of the venues relative to their execution engine,

etc. Objective metrics around the opportunity cost of rejections, market impact and prices need to drive order routing decisions.

As the buy side looks for smarter ways to navigate the fast changing FX liquidity environment how much growth in the use of execution algos could result from this and what key advantages do these toolsets have?

Execution algos can be a double-edged sword. While they offer clients greater control over their executions and the resulting TCA brings about much needed transparency, clients should also be mindful of the potential pitfalls. The client is exposed to market risk throughout the duration of the execution, and misinformed decisions around algo parameters can bring about suboptimal results, such as incomplete order fills or excessive market impact. It is the role of the algo provider to guide their clients in making well informed decisions.

Buyside firms are becoming more versed on the impact that good or bad liquidity can have on their executions. How are leading FX practitioners responding to this by helping them to measure and better predict the cost of liquidity?

Ongoing dialogue between LPs and their clients is vital. A good provider will be less focused on selling their clients a black box solution and more focused on educating them on the potential pitfalls of liquidity mismanagement. LPs need to be willing to share their expertise on topics such as liquidity profiling and market impact, and foster a data driven approach to decision making. By arming the client with the right tools, it is the numbers that will do the selling.

How are people changing their FX workflows to prepare for the next digital age?

Seamless, end-to-end trading efficiency from front-end execution to back-office processing has been a core objective of all FX market participants for many years. Direct connectivity between platforms and FX risk managers is now a reality, thanks to recent innovation in APIs and the broad adoption of connectivity standards. These in turn have enabled FX pricing and transactions to be embedded directly within client workflows - so that even simple processes, from making payments to settling invoices all the way to complex balance-sheet management, can have embedded FX capabilities. But will today's plethora of established technology providers in the eFX workflow space - delivering services including confirmation matching, aggregation, compression, reconciliation and settlement - be replaced by APIs and other new digital technologies? As innovation continues, are we close to real-time cross-border FX payments? e-Forex spoke to David Leigh, global head of FX spot and electronic trading at Deutsche Bank, to find out what the future holds.



David Leigh

There are compelling reasons for the buy-side to invest in improved FX workflow. "Both our institutional and our corporate clients are showing increased investment and interest in workflow solutions. On the institutional side, we have clients razor focused on maximising efficiency through the FX market. Some of that can be achieved through the automation of simple

operational tasks - share-class hedging, for example, or rolling open positions to different value dates. On the corporate side, what we're seeing is a huge push to automate and move away from manual processes," says David Leigh.

Historically, corporates have tended to operate on a regional basis, with regional treasury centres operating multiple local banking relationships and interacting with each other on a bilateral or multilateral basis. Today's trend is for corporates to use technology and workflow solutions as a means to centralise decision-making to head office. For both payments and receivables involving FX transactions, the cost-save is both immediate and significant. Leigh says: "The reconciliation process becomes much more cost-effective. If a rupee payment arrives locally, for example, giving head office visibility enables any hedge on the currency risk to be unwound immediately."

REPLACING TACTICS WITH STRATEGIES

Compliance can also benefit from improved FX workflow, given that new regulations typically require FX firms to capture additional information surrounding trade execution. What demand is there for incorporating due diligence into trading workflows? Leigh says: "There is huge demand. Whenever a new regulation comes in, often with a relatively tight timeline for the market, people tend to home in on tactical rather than strategic solutions. When timelines are tight, market participants are forced to come up with their own tactical solutions. There isn't really time for the market to produce industry solutions."

This is changing rapidly. "With the regulation of the past five years, people have started to look for more cost-effective and efficient responses," says Leigh. In doing so, they are moving towards automation. The trend is towards industry-wide

responses to change; Deutsche Bank itself is investing in scaling up its own "elegant solutions" from the specific business areas for which they were developed, towards a much wider use case. Leigh says: "If you're a local bank, or indeed a relatively international bank, does it make sense for you to have built your own solution, and to support and maintain it over time, as regulations change? Or would you prefer to work with a partner bank and thus have a workflow that automatically embeds the reporting angle and ultimately lowers your cost of delivery to your end client?"

COMMUNICATION IS KEY

Not all questions are difficult. But as this suggests, automation is not an end point; it's an enabler. Firms can be more effective, more responsive, altogether more agile. They can also hone their analysis and decision-making by processing richer, more granular data. Indeed, firms' capacity to handle, and thus their demand for, data continues to grow across FX. But all this increased demand and consumption serves to highlight another issue. Many FX workflows involve a number of legacy systems, which historically have not communicated directly with one another.

A corporate's treasury-management system, for example, might output to a human who might make a trading decision that is then input into an execution system. Leigh says: "End to end, an FX workflow can involve seven or eight independent technology systems. Each of those systems will capture the data, but they don't talk to each other. The opportunity in delivering a single end-to-end workflow solution is huge - it's about getting all of that data captured in the right way across the whole stack."



The capacity for trading firms to handle data, and thus their demand for it, continues to grow across FX

If we're talking about system communication, we're talking about APIs and we're also talking about an issue that is market-wide as well as enterprise-specific. Citing SWIFT's work on APIs, Leigh says: "With cross-border payments, you have regulatory regimes that expect banks to identify end-beneficiary and original sender, but you're forcing that flow to go through independent banking systems in different countries that just don't operate on a message format that can contain that information." In practice, even now, ancillary messaging is required to carry the information required by regulators. Which means that without full end-to-end automation, without APIs - no, we're not as close as we might have hoped to real-time cross border payments.

So what do we do? Leigh says: "Our systems are continually developing, regulations change, and technology innovation also occurs. Some work and upgrading is inevitable, but

the way the market can help - and we're doing this here at Deutsche Bank - is by working towards isolating our clients from the ongoing costs associated with upgrades, regulation changes, et cetera, by partnering with them to provide solutions that handle all that for them. We can provide scale by building the technology and having the maintenance teams in place."

The point is at once simple and profound: clients are buying a service; they're not buying a series of challenges that they then have to face for themselves. Leigh says: "Banking is challenging and difficult. There's a lot of regulation, a lot of attention to detail and client use-cases are all different. Disruptors have come to market in the FX world, and some of them have offered elegant solutions to a part of the client's workflow. But it's much harder to provide a deep, bespoke solution across a whole set of client use cases. Ultimately, that is what we aim to achieve."

Harnessing the benefits of more automated FX trade lifecycle operations

FX markets are unique not only in their scale but also in their complexity. There are multiple trading paradigms, and also multiple venues where trades may be executed. The FX eco-system is highly fragmented and the case for more automation – more automated FX-trade-lifecycle processes and procedures – has been clear for some time. And yet, automation hasn't happened yet. Why not, and when will it happen? eForex spoke to Steve French, Head of Connectivity and Messaging for Traiana, about the challenges to automation, its benefits, and the key steps that firms should take on their journey towards implementing automation.



Steve French

Inefficiency is an ever-present risk factor in FX trading and post-trade processing. This should be surprising, but it isn't. FX markets are complex eco-systems in which the complexities arise from three main areas: first, there are the challenges associated with the need to support post-trade processing across the whole of the fragmented eco-system; secondly, there is the established practice of using multiple vendors and/or internal systems to support individual areas of the wider FX market; and finally, there

is the related established practice of using multiple vendors and/or internal systems to support discrete aspects of the overall FX trade life-cycle.

All this adds up to a diverse matrix of processes and procedures that has evolved to handle, bluntly, anything that the FX market can throw at it. To cite just a few examples that illustrate the challenges facing the back office, some clients still book trades manually, and resort to fax and/or email confirmation. Some clients have no agreed protocol or method for responding to significant events – which is problematic for derivatives if not so much for cash markets. In cash, some bilateral trades are still being settled manually. There is widespread automation in FX, of course, but it falls significantly short of being universal.

The maxim "if it ain't broke, don't fix it" applies as well here as it did to stagecoach technology at around the time the first Model T Ford rolled off the production line. What's to be done?

PUTTING THE MONEY UP FRONT

"Historically, investment has been focused on front-office activities. Since the financial crisis, regulatory conformance has taken a huge slice of IT budgets," says Steve French. Back-office and supporting post-trade services have only received a small percentage of the IT spend. But the benefits of automation are increasingly being acknowledged: lower operational risks and avoidance of settlement failures; lower support and operational costs. Automated matching, confirmation and affirmation processes with a greater number of counterparties will also lower costs for intermediaries and execution providers and will provide a more streamlined flow of trades into settlement and clearing services

How, then, do we move forward?

First point: regulation facilitates automation. French says: "There's an indirect impact of regulation whereby the costs associated with maintaining bi-lateral agreements with counterparties – and having to

post VM for some FX instruments under UMR – are pushing more firms towards clearing, which will force standardized processes to emerge. We're seeing an expansion of the number of FX instruments supported by central counterparties as well as the introduction of listed FX instruments, which some are using as alternatives to pure OTC FX market trading."

There's also some pressure from other asset classes. French continues: "Messaging standards that have been adopted in other asset classes are now gaining traction in FX. This will benefit firms which have systems that support these standards. The increased adoption of messaging standards like FIX and the implementation of FX affirmation and allocation workflows between suitably equipped market participants has created a degree of conformity for some scenarios in the FX markets that we have seen in the equities space."

In terms of moving forward, there are signs are that FX-market demand for universal automation is beginning to be met. One of the main criticisms of existing post-trade processes is the need for multiple connections with multiple vendors and multiple vendor processes. French says: "Being able to access multiple trade lifecycle management services through one connection is advantageous, as long as the vendor providing the consolidated solution has an established network of market participants and provides an open platform capable of supporting industry standard messaging protocols, third-party vendors and industry utilities such as clearing houses and trade depositories."

Single-connection services are now available, as and as this suggests, vendors have a significant role to play in driving automation. This goes far beyond providing simple connectivity.



Change-driving solutions are often the result of a vendor's interaction with their client base

INTELLIGENT SOLUTIONS

Vendors, in fact, can play a key role in facilitating change. French says: "Vendors play an important role in their interaction with regulators and industry bodies, most importantly with respect to longer-term structural changes. They work hard to understand and interpret new initiatives and industry-body best practices - and regulations - and play a critical role in ensuring that market participants are aware of what is expected of them as part of any change." As French emphasises, change-driving solutions are often the result of a vendor's interaction with their client base.

Historically, little attention has been paid to post-trade platforms across the FX market place, but today, vendors and their clients are closely focused on making processes more useful and efficient through the application of business intelligence. French says: "We're now in a position

where we can centralise a lot of the decision-making that has previously been managed independently by each market participant and realise intelligent post-trade processing." Trades can be automatically routed only to those services required to conclude each given post-trade process and the cobweb of "if then else"-style decision-making logic can be replaced.

To end on a pragmatic note, firms with the most efficient pre- and post-trade processes are likely to appear more attractive to those clients who are themselves increasing automation within their own systems. So choose a vendor with an eye to the future.

French says: "Vendors must have a track record of delivering solutions that work and which solve real-world problems as opposed to simply presenting concepts that don't benefit a firm and that have not actually been delivered."

How to reduce post-trade costs in FX

Unlike the equity markets, post-trade processing in FX is disjointed. Multiple vendors and market infrastructures compete to message, match, confirm, aggregate, clear, net, credit-check, novate, compress, allocate, reconcile, settle and report trades. Legacy technologies and bespoke services cause multiple reconciliations which necessitate high levels of manual intervention. As a result, costs and risks are indefensibly high. To discuss how to make post-trade more efficient, SWIFT invited a group of experts to an on-line discussion. Sam Romilly, head of FX new business development at SWIFT, shares with e-Forex what he learned from the discussion.

The FX industry needs to reduce post-trade costs. But the reason why costs need to come down also makes it difficult to accomplish. The revenues and the margins of both the FX banks and their buy-side clients are being squeezed, but that same pressure makes it more difficult for them to invest in cost-saving measures. It is challenging to persuade either the buy-side or the sell-side to invest in operational efficiency if it involves up-front expenditure.

THERE IS A LACK OF INVESTMENT IN OPERATIONAL EFFICIENCY

Netting is a case in point. The value of netting to the banks, in reduced funding costs, is unarguable. Multilateral netting is the main reason for settling trades through CLS. Bi-lateral netting is so valuable banks are prepared to incur the extra costs of awkward manual work-arounds. Yet neither the MT 370 bi-lateral netting message standard published by SWIFT in 2012 nor CLSNet, the blockchain-based bi-lateral netting service which CLS has opened to non-banks, has seen anything like the take-up by FX market participants that the additional benefits of automated netting dictate.

The difficulty, it seems, is that innovations such as the MT 370 and CLSNet require investment in centralised matching services and other linkages to overcome the obstacles set by the profusion of systems and processes within banks as well as between them. This lack of standardisation, and proliferation of proprietary systems and procedures, is characteristic of post-trade processing in the FX industry as a whole. The question is how to overcome it.

CHANGE REQUIRES CROSS-INDUSTRY CONSENSUS ON ENDS AND MEANS

One answer, favoured by FinTechs active in the FX markets, is to jettison existing technologies. On this view, lavish cost savings fund the retirement of legacy processes and technologies almost immediately. But the savings by any one institution are bound to be constrained if its counterparties do not follow suit. Which is why others believe that an industry-wide agreement on both the objectives of changes to post trade processes, and the means of making them, is essential to success.

Building a consensus for change is difficult. The FX market consists not



Sam Romilly

only of banks but of non-bank liquidity providers and the asset managers and corporates which buy and sell currency to fund purchases and investments. It includes vendors which service aspects of the post-trade process, but never the whole, and a variety of trading venues servicing different segments of the market. Increasingly, FX is also the province of stock exchanges and central counterparty clearing houses (CCPs).

CLEARING THREATENS TO INCREASE POST-TRADE FRAGMENTATION

In fact, the purchase of trading venues by exchanges with clearing arms potentially presages a shift of

a higher proportion of FX trading activity not just into clearing, but possibly on to exchanges as well. The Uncleared Margin Rule (UMR) is encouraging this shift, which is popular also with regulators and buy-side firms that value the risk-reducing potential of collateral and greater price transparency. Banks will also benefit from the capital savings occasioned by wider use of collateralisation and more economical allocation of credit between clients.

However, there is an understandable concern that vertically integrated trading, clearing and settlement silos will emerge, characterised by proprietary message standards that render clearable FX business captive. This possibility, which, if realised, would force FX market participants to build different interfaces to each silo, threatens to increase fragmentation of the industry. It presents a sizeable obstacle to achieving consensus on the reform of post-trade processing.

REGULATORY INTERVENTION MIGHT BE NECESSARY TO OVERCOME THE DISINCENTIVES TO CHANGE

But is not the only one. The incentives to alter the status quo – with the possible exception of trading venues, whose need is always and everywhere to add business – are contradictory. The chief beneficiaries of increased operational efficiency at the banks, for example, are their asset management and corporate clients. The buy-side has little appetite to invest in the reform of post-trade processes, but every incentive to press the banks and trading venues for lower prices. That blunts the incentive to change. Likewise, vendors profiting from current inefficiencies have no motive to eliminate their profitable niche.

These various disincentives to reform have persuaded some



Fortunately, attitudes to post-trade risks and costs are changing

market participants that regulatory intervention is necessary to force the pace of change. CLS, they say, was created by the central banks precisely because the banks had no incentive to solve Herstatt Risk by voluntary co-operation. The FX Global Code is another central bank initiative whose principles of good practice should, some say, be made a legal and regulatory obligation.

If it was, runs one school of thought, credit allocation would become a major driver of change in post-trade FX. The Code expects banks to protect the FX market by distributing credit prudently and efficiently. Yet broken processes and legacy technology inevitably mean it is allocated clumsily, increasing the risks incurred by both banks and their clients, as recent events have shown. Better management of credit would cut risk and spawn consequent savings in capital costs.

ATTITUDES TO INVESTING IN OPERATIONAL IMPROVEMENT ARE CHANGING FOR THE BETTER

Fortunately, attitudes to post-trade risks and costs are changing already.

Banks are shifting technology investment from the front office to the back, to cut costs by raising rates of automation. They are also talking to those FinTechs whose propositions they believe can make a meaningful difference to post-trade risks as well as costs. An important driver is the deteriorating trade-off between offshoring and investment in automation, as the cost of labour rises in offshore locations.

In transitioning to a less fragmented, risky and expensive future, SWIFT has more than one important role to play. Its MT 300 FX confirmation message already reaches all segments of the market, and on a global scale. Standardised SWIFT messages, particularly of the ISO 20022 variety, can facilitate the management of data across internal business silos and inter-operability between market participants and market infrastructures. And the SWIFT gpi service, which enables banks to manage in-flight FX payments in real-time, is a rare example of something that is badly needed in post-trade FX: operational improvement without a massive price-tag.

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