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FX 2021

Exploring the digital road ahead

CBDCs

How are central banks engaging with the rise of digital currencies?

RAMPING UP DIGITAL PROPOSITIONS

Canadian e-FX providers look to meet increased demand

SMART ORDER ROUTERS

Helping to address the changing needs of FX

FX LIQUIDITY

Exploring the benefits of more customised pools

PROVIDER OF THE MONTH

Why e-FX clients are in safe hands with Commerzbank

COVER INTERVIEW

CHRISTOPHER MATSKO

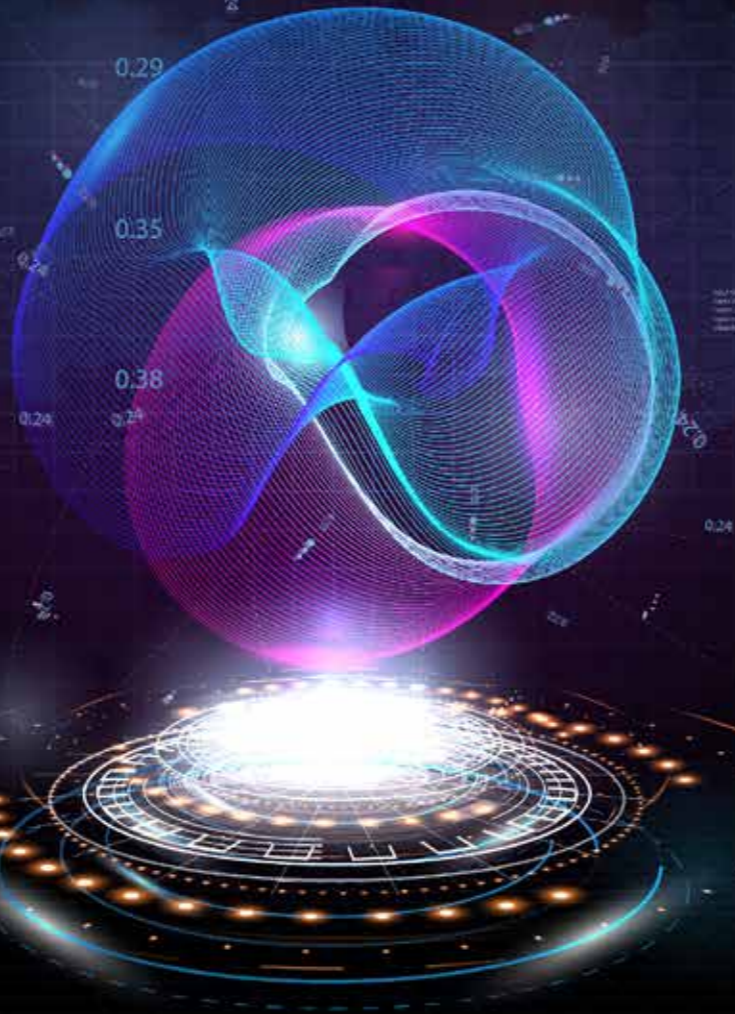
Head of FX trading services at FactSet

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January 2021

Happy New Year!

As Tod Van Name points out in this month's Market Commentary article, the arrival of 2021 presents foreign exchange professionals with new and increasingly complex geopolitical, regulatory and compliance challenges. Technology has a critical role to play here in helping trading firms to address many of these problems. But it has also proved to be hugely important during the ongoing COVID-19 crisis to both sellside and buy-side firms alike. A good example of this can be seen in Canada, which is the focus of our regional e-FX perspective in this edition. As people are forced to socially distance and work from home, e-FX technology has become a lifeline for many Canadian firms giving them the ability to continue their trading operations via electronic platforms. This increasing reliance on technology to get the job done during the pandemic lockdowns is being seen globally across our industry and we don't expect that to change any time soon.

This month our digital asset spotlight focuses on Central Bank Digital Currencies (CBDCs). A recent joint report released by the BIS talked about profound, ongoing changes across finance, technology and society, as well as the ongoing COVID-19 crisis, providing additional impetus for research and experimentation related to CBDCs. There are clearly many benefits to CBDCs but also substantial risks involved, not least security. Discussion about the need for central banks to join the digital world has moved on and various collaborative projects have been set up to understand more about how the technology involved would work. COVID-19 has also once again played a role as a catalyst here with enforced remote working and spending accelerating the use of digital payments and the decline in cash. So with central banks now actively working on studies and potential scenarios regarding CBDCs it seems likely something will come to fruition sooner rather than later.

In March we will be launching the Algorithmic FX Trading Handbook. This will be published once a year and is designed to be a useful desktop guide for buy-side firms who are looking for a single source of information about various key aspects of algorithmic FX trading and the products and services on offer from leading providers and practitioners. More information will be available next month at www.fxalgonews.com

As usual we hope you enjoy reading this edition of the magazine.
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FAB signs testing and trialling agreement with CLS for 'CLSNet'

First Abu Dhabi Bank (FAB), has signed a testing and trialling agreement with CLS for its confirmation, matching and netting service 'CLSNet'. FAB will be able to automate and standardise the netting calculation and reconciliation process with counterparties by using CLSNet, thereby increasing efficiencies and reducing potential operational discrepancies. Netting – which offsets receivables against payments due and therefore reduces net payments and saves transaction costs – minimises FAB's exposure with counterparties through reduced settlement notionals and subsequently improves credit line efficiencies.



Keith Tippell

Keith Tippell, Head of Product, CLS, commented: "The addition of FAB demonstrates the appeal of CLSNet to FX market participants trading in emerging market currencies. Given the sharp focus on settlement risk mitigation across the industry, CLS is investing further in evolving CLSNet to ensure broad-based adoption and, additionally, exploring new functionality related to liquidity optimisation and payment certainty."

ED&F Man Capital Markets and Ballinger & Co announce partnership

FX specialist Ballinger & Co. and ED&F Man Capital Markets Ltd (MCML) have entered into a partnership. The collaboration between the two businesses combines Ballinger's innovative deliverable Foreign Exchange offering for corporate and institutional clients with MCML's capital markets expertise, tier-one settlement capabilities and global footprint. As part of the relationship, MCML will provide spot and forward FX liquidity to Ballinger, enhancing their capacity to offer flexible terms to clients via a credit facility. Commenting on the partnership, Tom Dudderidge, CEO of Ballinger & Co., said: "Entering into this partnership with ED&F Man Capital Markets is a landmark moment for Ballinger. MCML's liquidity and settlement capabilities will revolutionise our client offering, their team is world-class, and we look forward to deepening our collaboration."



Tom Dudderidge

FXCubic partners with Broctagon Prime

FXCubic has announced a new partnership with multi-asset liquidity provider Broctagon Prime. Broctagon Prime, the liquidity arm of Broctagon Fintech Group, will be added to FXCubic's pool of liquidity providers. This will allow the liquidity provider to leverage on FXCubic's pricing, trading, and aggregation tools. Pantelis Michael, Executive Director of Broctagon Fintech Group commented on this collaboration:



Pantelis Michael

"We believe this partnership is a valuable asset to both, especially in current market conditions, where traders are seeking for more investment options. We're happy to be working with FXCubic to reach more brokers globally, as they benefit from the vast number of instruments and competitive conditions that we offer and grow their offerings for their clientele." FXCubic's CEO, Ege Kozan added on the recent partnership: "Broctagon's wide range of instruments and competitive trading conditions give our customers access to better liquidity and unlock great opportunities."

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LCH ForexClear non-deliverable FX options clearing goes live

LCH has successfully launched non-deliverable FX options clearing across nine currency pairs. The go-live of non-deliverable FX options clearing builds on LCH ForexClear's existing offering, complementing clearing of non-deliverable FX forwards, deliverable FX options and deliverable FX forwards. Clearing the new product creates further opportunities for clearing members and their clients to achieve operational and capital efficiencies through portfolio netting with products already cleared at LCH ForexClear. Clearing

of non-deliverable FX options also supports market participants that are required to post initial margin (IM) under the Uncleared Margin Rules (UMR), potentially reducing their costs. Paddy Boyle, Head of ForexClear, LCH said: "We are delighted to have launched non-deliverable FX options clearing at LCH, complementing our strong existing offering. By clearing this product, market participants can access significant operational and capital efficiencies as well as benefiting from the robust risk management associated with clearing."



Paddy Boyle

Sucden Financial adopts the Nasdaq risk platform

Sucden Financial, the global multi-asset execution, clearing and liquidity provider, has tapped Nasdaq to power its risk management system. Now live on the Nasdaq Risk Platform, Sucden Financial has a fully interactive, cloud-based system that enables better visibility into real-time risk control. "When volatility increases, trading behaviors change and risk management evolves, so we continue to focus on developing technology solutions that help safeguard and uphold the integrity of the capital markets," said Valerie Bannert-Thurner, SVP and Head of

Buy-Side and Sell-Side Business Solutions, Market Technology, Nasdaq. "With the new capabilities built into the Nasdaq Risk Platform, our clients can advance their real-time risk controls and analysis across assets, venues and regions." Nasdaq's market technology powers more than 300 of the world's market infrastructure organizations and market participants, including broker-dealers, exchanges, clearinghouses, central securities depositories and regulators, in over 50 countries with end-to-end, mission-critical technology solutions.



Valerie Bannert-Thurner

Gold-i integrates with CryptoCortex

Gold-i has integrated with CryptoCortex – an advanced digital asset trading platform from EPAM Systems, a leading global provider of digital platform engineering and development services. This provides financial institutions with increased access to multiple market makers and fully cleared cryptocurrency products available via Gold-i's CryptoSwitch 2.0™, part of its Matrix multi-asset liquidity management platform. Tom Higgins, CEO, Gold-i comments, "As digital asset

trading continues to gain momentum amongst brokers, Prime of Primes and hedge funds, a key part of our strategy is to ensure that the cryptocurrency liquidity available through Gold-i's liquidity management platform is easily accessible, regardless of which trading platform clients are using. CryptoCortex is one of the most advanced platforms for digital asset trading, therefore integrating with them was a logical step for Gold-i."



Tom Higgins



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CMC Markets launches new institutional brand

e-Forex spoke to David Fineberg, Deputy CEO of CMC Markets to learn more about the firms launch of its new dedicated institutional brand, CMC Markets Connect.



David Fineberg

A New Year and a new brand – what does that mean for your institutional clients?

Primarily this move reinforces the theme of constant evolution that has driven growth at CMC Markets for the last three decades – and shows no sign of relenting, either. The decision to launch CMC Markets Connect comes from our increased focus and investment in building for an institutional audience first. Although this isn't a new market for us – we have been supporting financial institutions in growing their businesses for almost twenty years – our new brand marks the 'stepping-up' at CMC to focus on new product innovations, as well as the highest quality pricing and execution services. That in turn will allow us to work with a wider variety of institutions as well as providing our retail clients with an even more sophisticated experience. With that in mind, we realised that there was a need to ensure the market understood the delineation between our institutional and retail offerings, hence the launch of CMC Markets Connect.

So how will the institutional client experience change?

I already mentioned product innovations, of which there will be quite a few over the next 12-18 months as we continue to work on developing a very-low latency solution. Initially this will focus on better serving the FX world with our moves into Spot FX and additional sub-asset classes. In terms of how the experience is enhanced, as well as becoming a true liquidity maker, part of our new brand positioning is being a 'complete partner' to our clients and offering a holistic service that evolves with their businesses requirements. We pride ourselves in already offering the highest levels of service and expertise but like all providers we can always do more.

In other words, a 'beyond FinTech' situation?

Yes, I think that's right. Technology has been at the heart of our business and has also played a crucial role when it comes to innovation in the market as a whole. However, service standards aren't perhaps always what counterparties need or expect. We're going to use that as a core part of our proposition, so institutional clients know that they will continue to benefit from consistently high service level agreements and that when they need more bespoke support, our consultative services are available to back them up. Market evolution means that we are dealing with companies of many different shapes and sizes, so you cannot assume that they will all have

the necessary levels of technical or infrastructure knowledge on hand. Ultimately we're also looking to act as a one-stop shop for multi-asset liquidity, trading technology, reporting and consultation.

Consolidation of service providers – do you see that as the future?

Very much so. When developing our new brand and products we started by undertaking industry research which highlighted the demand for a multi-asset offering. Arguably it's a curve we feel we have been ahead of for some time anyway with the wide range of CFD backed products on offer including thousands of single stocks. However, by adding attributes such as Spot FX, becoming a fully-fledged liquidity provider and delivering a wide range of consultative services too, under the CMC Markets Connect brand we are confident that we can add even more value and further accelerate our B2B growth.

And what happens to the retail offering?

That's not going anywhere and indeed our planned institutional growth will have a halo effect that helps further refine the retail side of the business. We have always targeted a sophisticated investor audience and they will be able to benefit from our improved price construction and broadened product offering. By shifting our approach and designing for institutions first we are confident this will be a win-win for all of our clients globally.

FXSpotStream to add support for FX Algos & Allocations

FXSpotStream will start supporting FX algos and allocations over its API. We asked Alan. F. Schwarz, CEO of the firm to tell us more about the initiative.



Alan F. Schwarz

Why have you decided to support FX Algos?

In 2020 we began dedicated work to make major functionality enhancements by adding support for Algos. We felt these additions strengthened our offering to current and prospective clients, while allowing us to target new areas of the market that we have previously not serviced.

The use of FX Algos has been a fast-growing segment of the FX Market as clients target the best way to execute their trades, while limiting their risk. Algos have thus been a significant area of investment and focus for our Liquidity Providers (LPs) and clients, and coincides with the growing electrification of the FX market. By supporting Algos over our API we are targeting a gap in the market (with most Algos being supported over a GUI) and meeting a growing demand from clients. These functionality enhancements allow FSS to support the additional e-FX capabilities of our LPs and clients giving them wider access to liquidity while reducing the risk of information leakage.

What technical work have you undertaken to facilitate this?

A great deal of work has taken place on our API to support the Algos of our LPs. Clients seeking to access the Algos of our LPs will not need to add any additional network infrastructure, connecting in the same way as they do today - accessing a normalized API through a single FIX session that provides access to Algos offered by multiple providers. The implementation of these enhancements will be available over the FIX 5.0 protocol, which offers greater functionality, a wider range of tags, a more robust application and state messaging. Notably, 'Amend', 'Cancel', 'Fill Now' and 'Suspend & Resume' capabilities will be available as part of the algos offering.

What access and Algo functionality will you initially be offering?

The initial launch will include added functionality to support Algos in NY over our API, with London and Tokyo to follow shortly after. This will include support for Resting Orders and Benchmark Fixing Orders. Following the launch of the Algo functionality over the API, development to introduce Algos to the FSS GUI will begin with the GUI targeted to be in production by the end of the year.

Clients will have access to the entire Algo suite of our current LPs, equating to over 70 different Algos, and over 200 different parameters. Clients will not pay FXSpotStream a fee to access any of the supported LP Algos. This was a key focal point for FSS as the

'free to taker' model has always been a constant in our Service.

Are there any other functionality additions to come in 2021?

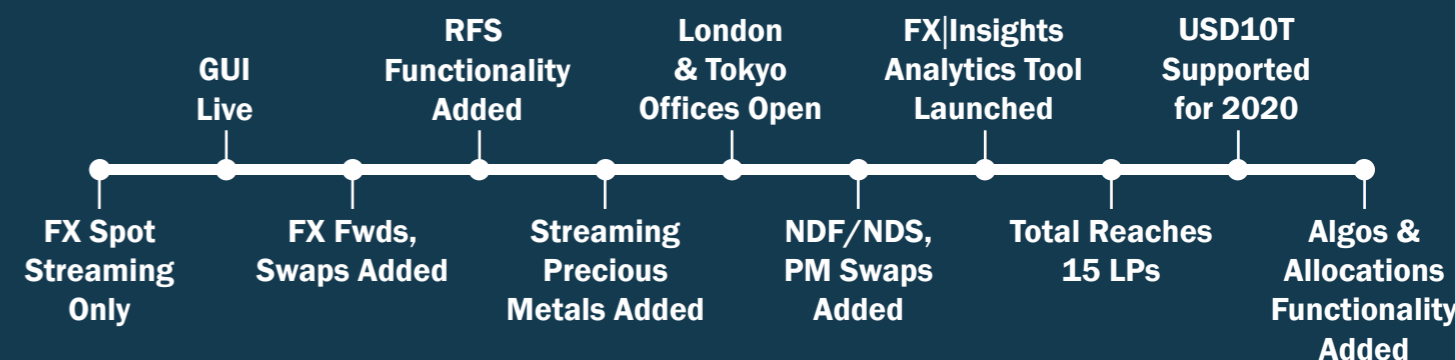
We are also excited to announce that we will be adding functionality to support pre- and post-trade Allocations. Allocations can either be implemented by the client or through an OMS or third-party vendor. We are vendor agnostic and actively encourage our clients to discuss their opportunities with our partners to find the one that best suits their needs. Allocations can be sent via either of the current FSS protocols, given it is supported by that client's liquidity provider. We are also working on improved administrative tools to mitigate the challenges posed by the increased level of account management associated with Allocation functionality.

What type of clients are you expecting to utilize the service?

The entry of FSS into the FX Algo and Allocations space will address a growing number of clients looking for a complete offering. The combination of the Algo functionality with the support for Allocations means we will be able to support a growing number of Hedge Funds, Asset Managers, Multinational Corporations and Regional Banks. But of course, that is not the extent of our focus, and ultimately any client, with an interest in accessing the Algo suite of a Tier 1 provider or needing Allocation functionality, will be able to utilize our new Algo Service.

FX|SpotStream® Evolving with the Market

Added Functionality to Support Algos & Allocations Announced in 2021

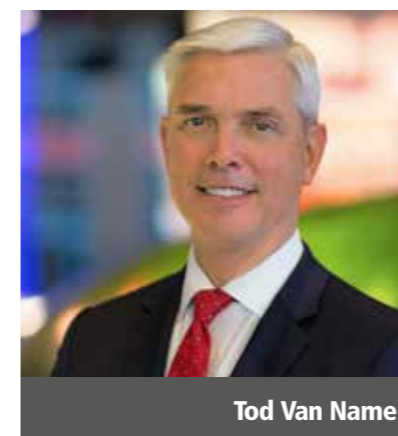


FXSpotStream is a bank owned consortium operating as a market utility, providing the infrastructure that facilitates a multibank API and GUI to route trades from clients to Liquidity Providers. FXSpotStream provides a multibank FX streaming and a matching Service supporting trading in FX Spot, Forwards, Swaps, NDF/NDS and Precious Metals Spot and Swaps. Clients can access a GUI or single API from co-location sites in New York, London and Tokyo and have the ability to communicate with all Liquidity Providing banks connected to the FXSpotStream Service. FXSpotStream does not charge brokerage fees to its clients or Liquidity Providing banks.

FX 2021: Exploring the digital road ahead

By Tod Van Name, Bloomberg, Global Head of Foreign Exchange Electronic Trading (FXGO)

MARKET COMMENTARY



Tod Van Name

The dawn of 2021 is greeting foreign exchange professionals with new and ever more complex geopolitical, regulatory and compliance challenges, but those who have harnessed technology to their advantage will survive, even thrive.

This year, we hope, will be much different than last year. In January and early February 2020, the FX market seemed almost sluggish, reflected in suppressed levels of FX option implied volatility, which was hitting all-time lows. Then in March, pandemic fears pushed trading volume to unprecedented levels, and implied volatility across most currencies reached levels not seen in a decade, only to fall sharply in April. The global economic uncertainty presented from Coronavirus-induced stay-at-home rules left traders in uncharted territory.

In these volatile and unpredictable market conditions, buy-side firms turned to FX algorithms and their most trusted banks to help them execute larger orders in thin liquidity. FX options traders told us that they looked for ways to hedge against further uncertainty. Some said they were implementing different strategies or combinations of strategies that leveraged FX forwards, put or call spreads, and risk reversals. Bloomberg FX option pricing and back-testing tools showed that certain risk reversal strategies performed much better than FX forwards did under similar circumstances.

Today, FX professionals are weary. Covid-19 has forced them to abandon acres of screen real estate in their offices to work on a portable laptop at the kitchen table. In past crises, FX professionals were able to work with colleagues in disaster recovery sites with the benefit of business continuity and on-site technology support. This pandemic has left many working alone in volatile markets, relying on video conferencing while competing for precious bandwidth with the remote learning demands of their children. We saw significant increase in the use of the Bloomberg Anywhere and Disaster Recovery Service in 2020. These tools provided a wealth of data, news and market access that helped FX traders stay on track.

REGULATORY MARKETPLACE

As Brexit unfolds, FX pros are looking at the best ways to adapt. While no one can truly predict the full impact of the United Kingdom's (UK's) exit from the European Union (EU), Bloomberg anticipated many different scenarios and prepared the data, information and infrastructure needed.

In 2019, Bloomberg received all necessary regulatory approvals to offer the same range of regulated services to EU and UK clients post-Brexit. Bloomberg Data Reporting Services B.V. received authorization from the Netherlands Authority for the Financial Markets to operate an Approved Reporting Mechanism (ARM) and an Approved Publication Arrangement (APA), to adhere to the Markets in Financial Instruments Directive (MiFID II) regulatory reporting. Our Dutch multi-lateral trading facility (MTF), or BTFE, now operates alongside Bloomberg's UK MTF, and provide services on a cross-border basis from Amsterdam throughout the EU under a MiFID II passport. It provides eligible participants with request for quote (RFQ) and request for trade functionality

for: cash bonds, repos, credit default swaps (CDS), interest rate swaps (IRS), exchange traded funds (ETFs), equity derivatives and FX derivatives.

Brexit is not the only government intervention on the FX community's mind. Today, traders need to ensure that their actions meet the requirements of a variety of changes. In the European Economic Area (EEA), trades have to comply with all stipulations of MiFID II and be executed over an MTF. Under the next phase of MiFID, there may be more reporting requirements and tests to increase transparency. While Basel III's capital standards are delayed, work on the transition from LIBOR is moving ahead, although the target dates for details may not be clear until after the end of 2021.

In the U.S., FX swap trades have to adhere to Dodd Frank laws and execute on a swap execution facility (SEF). Some worry that regulations may expand further under U.S. President-elect Joseph Biden's administration, but it is too early to predict that.

CHANGES BREWING IN EMERGING MARKETS

Meanwhile, regulations in Asia are changing rapidly and becoming much more stringent. What makes it even more complicated is that different countries are considering different stipulations. This could significantly affect trading, reporting and surveillance requirements, including who can trade what with whom, and how.

In anticipation of these changes, Bloomberg in Malaysia obtained approval from Bank Negara Malaysia ("BNM") to offer foreign exchange electronic trade negotiation via Bloomberg's Singapore market, under BNM's new framework for electronic trading. This move will allow

FX 2021: Exploring the digital road ahead

Bloomberg to provide uninterrupted service and help the BNM build a more transparent and efficient FX market.

Agreements have been inked in other countries, too, such as Angola, where the Banco Nacional de Angola (BNA) has adopted FXGO and a system for FX auctions. This allows commercial banks and corporates in Angola to trade FX spot electronically. Also, the new auction system provides a safe and secure environment for the BNA to perform currency auctions electronically, and for market participants to track and enter bids. The BNA adopted the new FX process in June 2020 and has seen wide acceptance for the new system.

COMPLIANCE ON THE MIND

Meeting all the new regulations, we expect, will significantly increase the number of compliance, legal and regulatory personnel needed.

Some firms are considering incorporating due diligence checks into their trading workflows, so they can meet these ever-changing demands. Through FXGO, Bloomberg's electronic trading solution, firm administrators can set up and manage all aspects of electronic liquidity, such as client enablement for trading, counterparty enablement, spread/credit buckets setup, allocations, and payment instructions.

Confirmation and settlement is one area where we are seeing efforts expand. Many traders still want to use voice trade for fixed income such as Bloomberg's voice confirmation (VCON), which allows monitoring of trades on a blotter in one centralized location. Those who want a full confirmation matching service for FX can use services such as Bloomberg's FX CMS, which compares and reconciles post-trade information submitted by the counterparties to an FX trade (including allocation information and settlement instructions) to generate an affirmation. The affirmation may then be transmitted to a customer's custodian or used to effect settlement.

UNDERSTANDING THE TRUE COST OF TRADES

No matter what stage of the trading process, FX professionals are looking for new ways to save time, yet maintain best execution practices. For example, institutional investors such as Pictet Asset Management have decided to use a new tool that lets FX traders calculate the full cost of a transaction before execution. Normally, buy-side firms cannot see the impact of bank charges, broker or custodial fees on a trade until it reaches the back office. Now, with a supplementary cost tool on FXGO, a trader can see the best

overall price in real-time, achieving best execution and the most cost-effective decision for their firm.

EVERYONE IS LOOKING AT ALGOS

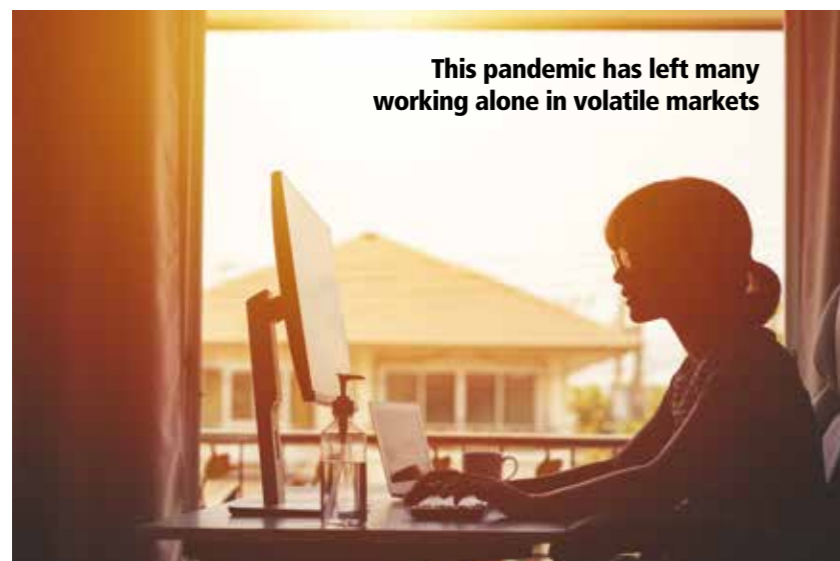
Market volatility often moves prices faster than the eye can see, necessitating a digital response. In 2020, Bloomberg saw a significant increase in the number of participants, the number of trades and the volume traded using algorithmic orders. This may be due in part to Covid-19, but also due to the increasing levels of buy-side sophistication. The flow was not only in G10 currencies, but also in more than 175 currency pairs across algo strategies. We have also seen an increase in time-weighted and liquidity seeking algos, which price-takers are making use of to achieve their best execution despite choppy and thin liquidity conditions.

An algo's ability to reduce the overall cost of FX trading is making the buy-side increasingly open to using them. FX dealers are also investing in innovative technology that presents pre-trade, in-flight and post-trade analytics integrated directly through Bloomberg to optimize user decision making and leverage FXGO's execution and straight through processing tools. This gives the FX community real-time access to the bank's view of liquidity and order execution.

AUTOMATION IS NO LONGER A LUXURY

Algos are a perfect example of why FX professionals can no longer ignore automation. Without a clear digital pathway, a company's financial activities pose unnecessary and costly logjams in its day-to-day operations.

Financial firms such as asset managers, pension funds and hedge funds need to continually upgrade their technology. While this can require investment, the benefits can far outweigh the cost. An upgrade in trading tools is essential



This pandemic has left many working alone in volatile markets

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Ramping up the digital proposition

Canadian e-FX providers look to meet increased demand

The Canadian foreign exchange market has grown dramatically over the past 15 years. Ever since the Bank of Canada and its subsidiary group - the Canadian Foreign Exchange Committee (CFEC) - began publishing average daily turnover numbers in April 2006, the market has more than doubled in that time. In October 2019, FX turnover hit a peak of \$130.6 billion per day. It has since retracted slightly back to \$119.2

billion but is still well above its humble beginnings of \$52.6 billion.

The numbers follow a pattern globally highlighted by the Bank for International Settlements in its triennial survey on FX volume. Starting in 1986 at less than \$500 billion per day, the FX market now stands at record highs of above \$6 trillion transacted on a daily basis.

This exponential growth has led to huge changes impact how FX trades, be it spot contracts or complex derivative products. The Canadian dollar, which sits seventh in the most traded currency charts, is no exception to this and the market has adapted significantly as a result.

E-FX EVOLUTION

Electronic trading is one such

evolution. Today, electronic trading makes up the majority of how FX instruments are traded in Canada. Spot and forward transactions traded electronically made up 62% and 71% of the daily volume, as voice trading makes up a shrinking share of the pie.

Zachary Felshman, e-FX sales, Americas at Royal Bank of Canada (RBC) Capital Markets, says that while the Canadian market has retained a certain percentage of voice execution and other non-electronic services compared to other markets in the United States and Europe, "constant increases in transparency and efficiency have increased the proportion of electronic execution".

"The Canadian Institutional client base is sophisticated and diverse, requiring all the advancements in

liquidity, execution and workflow solutions utilized by institutions in the US, Europe and Asia, which has in turn driven RBC Capital Markets to develop electronic solutions which are competitive with its global counterparts," he says.

Much of this shift has come from the buy side, many of whom are demanding new tools and capabilities to manage the growing regulatory burdens and best practices that are being implemented globally.

For example, in Europe the introduction of the Markets in Financial Instruments Directive, or Mifid II, has presented asset managers with numerous challenges about how best to show they are executing in a way that meets new industry directives.

Another example is the FX Global Code which is "a set of global principles of good practice in the foreign exchange market, developed to provide a common set of guidelines to promote the integrity and effective functioning of the wholesale foreign exchange market", according to the Bank of Canada. RBC Capital Markets has been involved in the development of the FX Global Code since its inception and was heavily involved in the initial design and architecture of the Code via the CFEC and the Global Foreign Exchange Committee (GFEC). There have also been working groups that drafted the Electronic Trading (including last look and algorithmic trading) and Confirmation & Settlement sections of the Code. While the code is a global document, the need to improve is no different in Canada, where buy side firms are

Ramping up the digital proposition - Canadian e-FX providers look to meet increased demand

“The Canadian Institutional client base is sophisticated and diverse, requiring all the advancements in liquidity, execution and workflow solutions ...”



Zachary Felshman

seeking superior execution outcomes and have grown increasingly comfortable in utilizing advanced technology to drive their endeavors. “Empowered by execution products and services along with the real-time market data and visibility over working orders, traders are more comfortable in using their FX expertise to manage the outcome of their executions,” says Felshman.

“Traders are acutely aware of FX microstructure and liquidity dynamics across the spectrum of tradable products and consequently seek a partner whose sophistication complements their own; and can assist them in creating a bespoke trading environment to suit their needs,” he adds.

The changes have been easier for the larger buy-side Canadian firms who typically leverage their scale and technological capability to lead and help drive global buy-side best practices for FX execution. Being early adopters of the best execution standards, which originated in Europe under MiFID II regulation, these firms often deploy extensive resources to measure quality of execution and reduce transaction costs.

However, these services are available to smaller firms, too. Using electronic services helps Canadian buy side firms track and trace orders through the full lifecycle and prove to clients they are executing in the best way possible. This is much easier than using a voice system where operational risk can impair this process.

TRADE ANALYTICS

Part of tracking trades is done via transaction cost analysis which is part of the buy-side’s continued efforts to understand and reduce transaction costs given the focus on best execution standards.

This has also been helped by the emergence of multi-asset class execution management systems (EMSs) have made it easier for buy-side trading desks of all sizes to manage their own FX—whose main trading focus has previously been strictly equities or fixed income trading. Both these factors have contributed to the buy-side’s shift



Ian Williams

“We see large Canadian buy-side firms seeking to further leverage advanced FX TCA to help support active execution strategy selection and to measure quality of execution.”

towards e-FX, according to leading global market maker Virtu Financial.

“There has been an increased focus on electronic FX trading by Canadian buy-side firms using Virtu’s broker-neutral services—which includes FX Trade Analytics and the Triton execution management system (EMS) for FX,” says Ian Williams, chief executive at Virtu Canada.

“Practically speaking, we see large Canadian buy-side firms, who already execute FX primarily electronically, seeking to further leverage advanced FX TCA—such as low latency FX metrics, direct dealer algo data connectivity, and FX market impact models—to help support active execution strategy selection and to measure quality of execution both of internal desks and of dealers’ FX algos.”

For Canadian medium size buy-side firms, who traditionally relied on a custodian or prime broker for passive FX execution or voice trading, Virtu sees increased demand for e-FX execution which is largely driven by the ability to trade FX using the same multi-asset class EMSs currently used for equity execution. Many have typically outsourced FX execution as it has not necessarily been a primary investment strategy of a particular buy-side firm, but many can actually achieve substantial execution cost savings by taking FX execution in-house and by better tracking and optimizing their executions with enhanced tools and reporting. “Global, broker-neutral and multi-asset class EMSs, such as Virtu’s Triton, help to ease and streamline a firm’s transition from passive FX to e-FX from

both a technology and operational resources viewpoint, including electronically executing more FX trades in competition,” says Williams. (see boxout)

CLOSER INTEGRATION

Juggling numerous systems in order to trade FX electronically can be a handful for some buy side firms, particularly if they do not trade FX that often. Given trading, risk management, payment processing and analytics is all being done electronically via tools to facilitate straight through processing, Canadian customers across the board have become more price sensitive. As a result, banks are looking for better pricing from liquidity providers and venues. Part of this comes down to having a single platform to handle both payments and structure corresponding FX transactions, as well as integration with treasury cash management and accounting systems.

“The buy-side wants to use self-service to access more services. TickTrade enables banks to add additional services as well facilitate integration with other systems that buy-side clients use,” says Will Kennedy, Managing Director - Sales and Marketing at TickTrade, a Toronto-based technology firm. In Canada, many of the new types of FX trading services businesses are now offering have witnessed a significant increase in demand. For example, Virtu’s Trade Analytics and Data services has had an uptick in requests, including post-trade FX TCA based on Virtu’s enhanced FX reference rates, as well as pre-trade FX TCA and Virtu’s FX Agency Cost Estimate (ACE) market impact models.

Buy-side clients want closer integration between trade analytics and their execution workflow as valuable analytics products must provide

actionable insight and accommodate portability of execution data and easily integrate across trading workflow technology and analytics providers. This allows buy-side firms to achieve effective data driven execution while managing overall technology and infrastructure related costs.

The need for seamless and bespoke integration in the client workflow was a catalyst for Virtu to introduce Open Technology, a portal-based solution which provides clients with API access

to both analytics and a normalized feed of data for in-house and/or third-party data processing. Virtu also partners closely with OMS providers, multi-dealer platforms and the dealer community to provide seamless data and analytics integration for clients.

“We expect the requirement for data portability and ease of integration to remain a key theme for the e-FX industry, driven both by the buy-side demand and by regulatory pressure,” says Williams.

The e-FX market in Canada, like many other regional markets, still craves more solutions to help trading firms fulfill their electronic needs. This has been made easier by developments such as multi-asset class EMSs which have lowered the barrier-of-entry to buy-side firms currently executing FX passively. Buy-side firms who currently trade FX exclusively with their custodians or prime brokers still need to demonstrate that they are achieving best execution in FX trading which impacts their foreign securities trading. There are technology and operational hurdles in transitioning to FX electronic trading, but that process can be greatly streamlined by using a multi-asset class EMS.

Virtu’s Triton EMS will launch in Canada in the first quarter of this year and offers a complete electronic FX execution solution based on the firm’s global, broker-neutral and multi-asset class Triton EMS. “Triton EMS is widely used by institutional trading desks to manage market access and execution needs for equities. The new capabilities enable Virtu clients to execute FX with their long-standing liquidity providers on the same Triton EMS platform – either via request for stream (RFS) protocol and/or by directed execution such as dealer algos,” says Ian Williams, chief executive at Virtu Canada.

The new Virtu e-FX solution allows firms to manage FX execution in-house and trade electronically in competition using the same financial technology equity traders use to achieve best execution. The multi-asset functionality of Triton EMS is designed to help firms’ evidence best-execution and realize substantial FX execution cost savings without incurring additional technology costs or increasing workflow complexity. A driving factor behind the expansion of e-FX trading is ease of technology integration and the ability to unify all the components in a complete front-to-back FX execution solution. In Virtu’s case, its broker-neutral FX services include both Triton EMS execution capabilities with broker neutral access to major Canadian banks’ liquidity, as well as post-trade FX services and FX TCA. Clients can either select required components for a custom solution or take the full package as a comprehensive approach to e-FX execution.



Ramping up the digital proposition - Canadian e-FX providers look to meet increased demand

"We see a significant trend towards higher degrees of self-service. We are using our machine learning capabilities to assist our sell-side clients anticipate, predict, and quantify buy-side needs. Our clients can now offer services that are dynamically tailored to meet those needs,"



Will Kennedy

to automate all their accounts payable (both origination and reconciliation) through API integration into Accounting Software and ERP's allowing them to utilize multiple payment methods, such as ACH, Wires and Credit Card, combine funds from multiple bank accounts or credit cards when making a payment (bank agnostic); and migrate cheques to digital payments through the automated supplier contact functionality optimizing both our clients and their suppliers experience.

MAKING THINGS EASIER

Banks themselves have also been making big strides in developing solutions in order to make it easier for clients to trade electronically. For example, in July 2019, RBC Capital Markets acquired Canadian Fintech, WayPay, to accelerate the transformation of the digital payment experience for its clients.

"Embedding this solution into our infrastructure has allowed us to remove many long-time friction points on a scalable platform where we can continue to innovate," says Abdullah Al-Hashimi, head of eFX trading, North America at RBC Capital Markets. WayPay provides RBC's clients the ability

"RBC Capital Markets is continuing to build on this market leading functionality through our agile delivery, with a road map that includes incorporating real time FX rate offers, foreign currency accounts and collection solutions," says Al-Hashimi.

Banks are also investing in creating platforms with mobile access that enable customers to both structure and initiate payments as well as FX transactions on a single platform. They create these platforms by partnering with firms like TickTrade that integrate seamlessly with their core banking systems.

"Our platform offers multiple access types including mobile access that

enable customers to both structure and initiate payments as well as FX transactions on a single platform," says Kennedy.

Investment in new technology Banks in Canada also continue to invest in new and more advanced FX technology, as well as, in infrastructure and personnel. The product set has expanded from various executable request-for-quote and streaming services for deliverable products to pricing for less liquid NDF products, benchmark automation and customized liquidity access through algorithmic execution with intelligent workflow processing including allocation services and TCA reporting. Concurrently, there has been an increase in real-time pricing for all customer segments including commercial payment creation capability, engaging multiple payment processors to improve reach, delivery, and reduce cost integration with cash management and accounting systems. Interest in use of AI and big data technology to track and analyse customer behaviour continues to grow and, as a result, tailor services to customer specific needs and address expanded compliance requirements. At RBC Capital Markets for example, the bank has been incorporating AI into capital markets research since 2016.

"We led the way in AI within the financial sector with the launch of Borealis, our AI Research Centre, in 2018. Thanks to Borealis we have been able to develop tools for different areas of the bank and we continue to invest in this field with a view to launching more developments in the near future, including FX," says Felshman.

Canada's more sophisticated buy-side clients are keen to have access to customized liquidity pools, and their use of FX algo execution highlights the unique needs of each individual client.



RBC led the way in AI within the financial sector with the launch of Borealis, their AI Research Centre, in 2018



Capital Markets



Unique needs. Bespoke solutions.

At RBC Capital Markets we invest in cutting-edge technology to provide tailored solutions to our clients' individual needs.

We have a strong global presence yet our Canadian origin is deeply rooted in everything we do. Our focus on transparency and complete adherence to the FX Global Code are fully aligned to our ultimate objective: putting our clients first.

For more information go to www.rbccm.com or contact your RBC Capital Markets sales representative to learn more.

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The FX market in Canada will continue to grow steadily particularly with the end of Covid-19 still uncertain and an increased reliance on digital offerings

“Typically they are interested in a bank which has both the capability and expertise to give them a tailor-made yet transparent execution experience with fine-grained control over price and destination routing,” says Felshman.

For example, RBC Capital Markets has built a TCA solution for clients and continues to evolve the presentation of this data and execution benchmarks. Some clients are also exploring the bank’s fully supportable integration into rich third-party TCA solutions with enhanced meta-data tagging of orders to help with explaining execution outcomes.

DERIVATIVES

Electronic trading, which has often most been associated with the spot FX market, has also become relevant in FX derivatives, too. In Canada, buy side firms have wanted to remain at the cutting edge of technology and have an expectation for FX Options to follow the trend of electronification and automation that has been set by other FX products.

“As they continue to interact with institutions by voice and chat for their

sophisticated structured requests, they seek the convenience and regulatory rigor of an electronic platform for vanilla products, along with the advantage of a trusted counterparty such as RBC Capital Markets which can adapt its capabilities to the client’s specific needs,” says Al-Hashimi.

Recent events have only accelerated the trend of more electronification in FX in Canada. As the events of Covid-19 have changed how people work it has had a subsequent knock-on effect to the increased reliance on the digital world. As a result, Covid-19 has in many respects accelerated trends that were already well underway, and FX in Canada is no exception, says Al-Hashimi.

“With people forced to socially distance and work from home, e-FX became a lifeline for many firms giving them the ability to continue their trading operations via electronic platforms such as RBC DX. The volatile market environment highlighted to clients the importance of dealing with an FX liquidity provider which is able to meet their needs in an efficient and timely manner for both Algo execution

and risk-transfer trades,” he says. The FX market in Canada will continue to grow steadily in the forthcoming years, particularly with the end of Covid-19 still uncertain and an increased reliance on digital offerings. TickTrade’s Kennedy believes a very significant area of growth is in the commercial and retail segments for solutions that deliver improved pricing execution, risk management, and payments combined with analytics tools to understand and predict customer demand. By allowing banks to be notified of changes in client behaviour, they can identify cross-sell and upsell opportunities and have foresight into trading activity. Integration into their trading platforms, (both market-facing and bank’s client platform), allows banks to leverage the benefits of an ecosystem-based offering. Adding smart payments routing to the mix further expands the ability to offer improved cost efficiency and settlement times to be optimized.

“Generally speaking we see a significant trend towards higher degrees of self-service, improved risk management tools, integrated STP, and a much higher quality and range of services dynamically tailored to buy-side needs,” he says.

Banks like RBC Capital Markets also believe there are a range of growth opportunities ranging from smaller institutions who are dipping their trading toes into the e-FX world, as well as large institutions who are seeking a partner as they grow in sophistication.

“The lion’s share of the benefits will come from partnering with a global bank that understands the Canadian markets; and can offer clients convenient and transparent services leading to increased efficiency and reduced transaction costs,” says Al-Hashimi.

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Why e-FX clients are in safe hands with Commerzbank

Commerzbank continues to innovate the range of e-FX trading tools and capabilities it offers its clients. e-Forex spoke to Dmitry Ilyaev, the bank's Singapore based Global Head of eFX trading to learn more about its current offerings and how these enabled it to be there for its clients in the darkest days of last year's Covid-19 lockdowns.



Dmitry Ilyaev

Dmitry, please could you remind us about the range of e-FX solutions that Commerzbank now provides.

At Commerzbank, we continue to build on a strong legacy of eFX innovation. As one of the first banks

to unify our voice and electronic offerings, we have made great strides over the past few years in improving our FX trading algos, to increase our competitive edge as a risk transfer liquidity provider as well as our client execution algos. We take a very hands-on approach with our clients, guiding them through the complex FX liquidity landscape. In addition to a comprehensive transaction cost analysis (TCA) that accompanies all our algo executions and resting orders, our quant desk is able to create bespoke, auto-generated reports delivered straight to our clients' inboxes. The reports can be tailored to our clients' specifications. They provide a regular update on market conditions and flow levels, by leveraging the vast reserves of data that we consume as an active market participant.



We see technology as one of our key competitive strengths reach out to discuss further. Thank you

How do clients access these toolsets?

We offer our liquidity, orders and algos on all key multidealer venues. However, FX Live Trader, our in-house developed trading portal, remains the central platform for accessing our offering along with the accompanying research and market insights. This is now supported for mobile phones and tablets, making it easier than ever to access our suite of FX services.

In what ways have you been working to enhance your e-FX offerings?

We see technology as one of our key competitive strengths. It has allowed us to build a strong electronic FX spot offering over the last couple of decades. We are now using our in-depth expertise to extend this model to other asset classes and product types. By establishing a standalone global e-forwards desk a couple of years ago, we were able to increase our internalisation rates in FX swaps by deploying new pricing algos that automatically adjust the prices we show our clients, either via executable streaming prices (ESP) or request for quote (RFQ) / request for stream (RFS) to incorporate our axe. Much like for trading spot, this enables our clients to reduce their market footprint when transacting swaps or forwards with us, and allows us to offer very competitive pricing. The ecosystem



Commerzbank's team with its armoury of e-FX tools looks well placed to deal with market conditions that may confront its clients in 2021

for electronically traded swaps is still in its infancy compared to spot, but we are working closely with several partner platforms and data vendors to help facilitate growth in this area. We hope this in turn will bring greater transparency to the market. Likewise, we have moved non-deliverable forwards (NDF) and precious metals trading onto the electronic platform for similar reasons.

How has Commerzbank responded to increasing demand for FX execution algos?

As an active consumer of liquidity ourselves, we understand the challenges faced by clients in trying to efficiently navigate such a fragmented market. Our execution and smart order routing (SOR) algos were designed with these challenges in mind. We take time to understand our clients' trading requirements and do our best to match them with the right tools, which we have at our disposal. We have also stepped up efforts to make our FX execution algos more adaptive to changing market conditions. One example of this is the

introduction of an in house developed trading signal, called 'IntelliVol', that makes in-flight adjustments to the execution trajectory of the order depending on changing levels of activity in the market.

Has the current Covid-19 crisis strengthened the value proposition of e-FX even more amongst your clients?

Definitely. By streamlining our product lines along electronic workflows and channels, we were in a prime position to offer our clients transparency for their FX liquidity and execution needs, at a time when many had to perform their roles outside of the office. We were also able to remain competitive when there was significant market dislocation. An example of this was during the turbulent trading conditions in March last year when, at times, the market FX swap spreads blew out to 20-30 times what they normally are. Our investment in establishing our e-forwards desk has played an instrumental role. It enabled us to continue to show tight pricing to our clients, who were trading forwards and swaps. While increasing our

market share, we were also able to pass on our improved efficiencies in the form of significant cost savings to our clients.

What are your plans for rolling out new e-FX products and functionality over the coming months?

As I mentioned earlier, technology forms the backbone of our operation at Commerzbank. Our clients are already able to benefit from our capabilities either through competitive liquidity provision or efficient algo execution. But we don't plan to stop there. We are now exploring more direct ways in which we can empower our clients to utilise some of our core system components to help them build out their own eFX capabilities. Whether it is execution, liquidity provision, inventory management or analytics, we stand ready to partner with interested clients and help them build up a streamlined electronic business of their own. If this resonates with any readers, please feel free to reach out to discuss further. Thank you



Christopher Matsko

FactSet

Moving to the forefront of Institutional FX trading

Following Portware's acquisition by FactSet in October of 2015, the firm's Multi-Asset Enterprise Trading platform has emerged as the go-to solution for advanced analytics and automated trading capabilities among the "Trillion Dollar Club" of the asset-management community.

With the hiring of Christopher Matsko, Head of FX Trading Services, FactSet made a conscious decision to pivot from its original FX client base of systematic trading Hedge Funds to focus more purely on the firm's core client base of traditional asset managers and sovereign wealth funds. The refocused strategy, which leverages Matsko's extensive prior experience in the real money e-FX trading business, has positioned FactSet at the forefront of trading solutions for institutional foreign exchange. The firm has won a number of industry awards over the past several years and begun to take aim at further expansion in Europe and Asia-Pacific.

We spoke to Christopher to discover more about how, under his direction, the firm is now expanding its technological footprint by opening liquidity channels and execution methods not previously accessible to the long-only trading sector. These new tools will lead the industry in front- and middle-office automation capabilities and revolutionize the way trading desks and middle office operations function today.

How is FactSet planning to change the face of FX Trading?

We are already changing the face of FX trading by using powerful allocation tracking methodologies built within FactSet's core architecture. We are giving the largest buy-side players in the world access to execution methods that were never possible given their existing trading technology stack. At a high-level, the concept is actually quite simple: take a large order and make it smaller—that's it. While this may

sound like a basic thing to do, in actual practice, it's very complicated. Tracking potentially hundreds of individual portfolio allocations and ensuring their pro-rata execution amounts are correctly accounted for when providing the fills back downstream to an OMS, in real time, is an extremely complex task. It's a process that nearly all other trading platforms have struggled for years to solve. Fortunately, we developed our solution over four years ago and have been engineering it to be more robust and nuanced ever

since; this has allowed us to make tremendous strides in delivering truly automated FX execution technology by providing curated liquidity based on trade size, currency pair, and more.

The Portware Enterprise FX module is built to offer a variety of execution styles: two-minute streaming RFQ/RFS, all-day streaming executable prices (ESPs), and various types of algo execution, both broker-based and FactSet's in-built. These tools are not new to the industry—in fact, they've been around for more than 20 years (apart from algos, of course, which debuted in the late 2000s). Gone are the days where order aggregation across many portfolios would lead to an order too big to be executed electronically. The difference we provide to the market and how we're changing the "face of FX Trading" is by allowing the largest FX trading desks in the world to access all these tools in execution sizes, which can fill their orders optimally, i.e., reducing their market impact and any associated information leakage that may otherwise result.

The traditionally high cost of trading on spreads for large orders often forces trades back onto chat or the phone, which then becomes more difficult to measure from a broker performance and TCA perspective. By allowing our clients the flexibility to break up their aggregated/netted blotter positions, they have the opportunity to look at traditional execution methods through a new and potentially automated lens.

FactSet - Moving to the forefront of Institutional FX trading



We are giving the largest buy-side players in the world access to execution methods that were never possible given their existing trading technology stack

Will FX traders be replaced by robots?

Yes, but not in the “Terminator” (or even termination) sense. Automation and Smart Order Routing are beginning to take a real hold in the FX market, and having the tools necessary to stay ahead of the trading curve will be essential to boosting any trader’s longevity on the desk. As trading desks evolve to handle workflows across multiple asset classes, the ability for a single platform to navigate them seamlessly, and to do so in a way that enables traders to spend their time on higher-value tasks, has never been in greater demand.

It’s been long discussed and highlighted that the recent trend in global multi-asset class trading is to spread the traders thin by giving them more responsibility across multiple asset classes. Whether that means FX and FI, EQ and FX, or even all the above, most desks are being forced to do more with the same or fewer bodies on the desk. This is where robots naturally come into play. A proper automation tool kit in this context relieves a trader from having to make unnecessary button clicks for routine order routing or execution; these tasks can be handled readily by the machine that is trained via



FX TCA is now more important than it's ever been

the inputs provided by the expertise of the human trader. We are seeing this play out all over the world in various degrees of implementation, from simple auto-routing of WMR trades to automated competitive RFQ trades, and as advanced as automated slicing of orders and executions within curated streaming liquidity pools. It’s all there for the buy-side to utilize—they just need to come to terms with their level of comfort at having executions happen away from their hands.

What does the future of your business in APAC look like?

Trading FX is not for the faint-hearted with wild swings in the markets by everything from CPI/PPI to a tweet; the level of complexity for trading in APAC is a notch higher as the market spans across 11 time zones, consisting over 10 markets, and dozens of regional nuances and fragmented liquidity. Buy-side players in the region aren’t content with a generic trading platform, and FactSet is proud to be their technology partner providing them with a customized multi-asset trading system deeply integrated into their ecosystem, powered by a robust automation engine.

Clients in APAC were grappling with becoming a lean multi-asset class trading desk and the sudden emergence of COVID-19 has helped accelerate that process. The reinvention of the target operating model at a trading desk often begins with the consolidation of platforms and in going through this exercise, one often realizes that they are flooded with gizmos they might need but lack essential tools they must have. This has led to a real shift in consolidating platforms to focus on workflows. This challenge is amplified in APAC as trading



Buy-side players in Asia aren't content with a generic trading platform, and FactSet is proud to be their technology partner

desks possess dozens of standalone execution or broker platforms catered towards niche asset classes or illiquid markets that simply refuse to talk to one another, creating massive inefficiencies in the day-in-the-life of traders.

Our clients are demanding FactSet to challenge the status quo by not only integrating these bespoke tools into a single EMS but also offering the ability for these to be dynamically

interfaced with each other and fed off central automation engines. As an example, clients expect multiple OMS to feed into a consolidated EMS that aggregates and internalizes orders before sending them to be executed by the dealing team. The traders access all asset classes and regional markets from one EMS that is fed by data from exchanges, brokers, liquidity providers, and trading venues. Furthermore, the trader is augmented

by an automation engine that lays the foundation of freeing up the most critical resource of the trader—time!

How important is an investment in R&D to FactSet, and in what ways does the firm look to engage with clients to help shape your product offerings?

We partner with our clients in the development of our new products, across asset classes, but particularly in OTC markets such as FX and FI. They are partners in product development, strategic initiatives, and workflow development, all of which can be unique to them and/or scalable to the industry.

At a strategic level, we apply a pragmatic marketing framework to our approach for product development, and that means we have to thoroughly understand our clients’ (and prospective clients’) pain points on the trading desk, where they feel there is room for improvement, and



The focus now is about turning TCA data into actionable decision points for the next trade execution

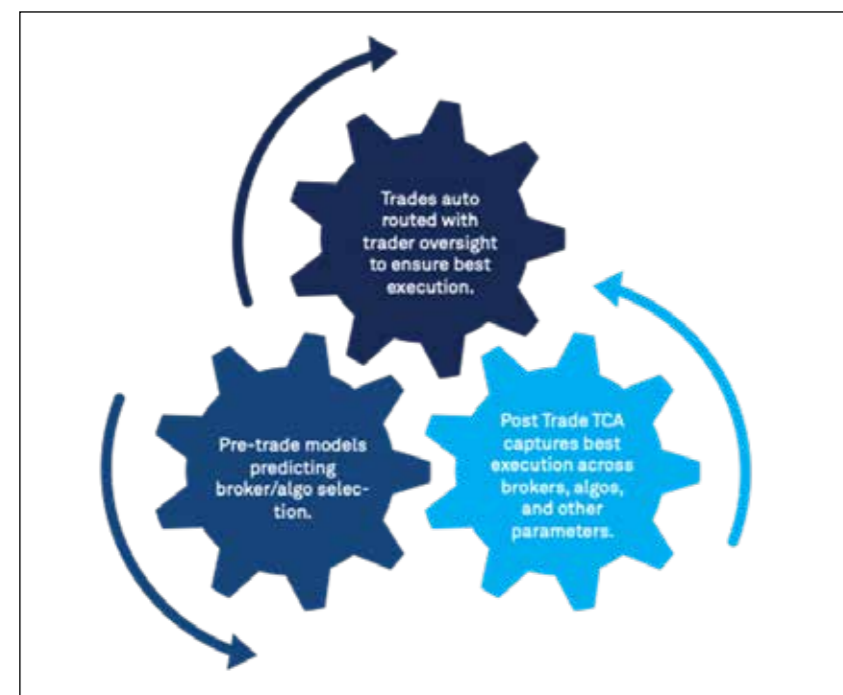


Our clients are demanding FactSet to challenge the status quo

where can we collaborate with them to provide innovative solutions that can be custom to the end user yet also scalable. A great recent example of this approach is with the development of our SmartRFQ framework.

The SmartRFQ module allows our clients to curate custom liquidity pools by currency pair, trade size, and execution time, while simultaneously randomizing other LPs into the RFQ pool. This feature works in concert

with FactSet's cutting-edge automation toolkit and helps clients streamline their bespoke liquidity pools while reducing potential information leakage to LPs, which might not be willing to take on certain currency risks. As an example, clients can define Tier 1 LPs by currency pair, size, and time of day; they can then define a Tier 2 pool of LPs and randomize a small subset selection from within this pool. Clients can define as many "pools" of LPs as they like and can also randomize any amount of them into a curated pool of liquidity for any given currency pair and trade size bucket.



FactSet has real-time tools that automate that decision for the client and execute against the best available price on either session

What you think the trading room of the future will look like and how FactSet is preparing for this?

Many of us in the technology solutions business have a good view of what the trading floor of the future looks like, it's just a matter of who can put all the relevant pieces together first; that's who will likely win the technology race. In a big

way, the future is data, metadata in fact. Enabling and empowering clients with near real-time access to historical and in-flight metadata will be a massively important ingredient to how trading decisions are made in the future. This is what FactSet refers to as the "enlightened workflow." FX TCA is now more important than it's ever been, and although post-trade TCA is well over a decade mature in the FX industry, it's the automated application back to the front of the trade life cycle that is becoming the new hot topic. It's no longer the use of these cost measurements to validate previous trading decisions that are capturing desks' attention (although that is still extremely important), it's now about turning this data into actionable decision points for the next trade execution. Our team is creating solutions to help traders' access historical and real-time trade data to create a curated pre-trade view into their potential best execution method. Building on the pre-trade model, clients will then be able to leverage their existing FactSet automation tools and effectively let the machine determine and execute in the most efficient size, liquidity pool, and execution method. Admittedly, we are not there yet, but we have the core building blocks in place (automation, curated liquidity, metadata storage, advanced execution tools, and in-flight TCA) to start formulating, in a very concrete way, what the trading floor of the future is going to look like.

Can you elaborate a bit more on the "enlightened workflow" and how the continuous TCA feedback loop plays into that?

Foundationally speaking, it all starts with tick data and the accompanying TCA analytics. We structure our client trading sessions in such a way that every available price tick that could be traded upon is captured within an

Portware Enterprise is a sophisticated FX dealing platform with an established track record serving the largest asset managers globally. The platform's design lends itself extremely well to the automation of complex workflows. Powerful allocation tracking technology built into the core architecture enables methods of execution not possible via other platforms. The platform excels at providing curated liquidity based on several trade characteristics. Its tools facilitate a variety of execution styles and can achieve meaningful cost savings over traditional methods of trading on spreads for large orders. A powerful automation toolkit gives multi-asset desks the ability to do more with



less. Traders no longer need to make a series of tedious button clicks to effect routine executions as the system can be trained to auto-route different types of orders effectively based on its users' expertise. Data-driven analytics, automated and delivered at the point-of-trade, lie at the forefront of Portware's R&D efforts. Traders should know which execution tool on the platform is likely to produce a preferential outcome. New products and their liquidity, along with increased regulation and further adoption of automated trading, are likely to be the main drivers of change and possible disruption in the institutional FX trading space in the near-to-medium term. Having the right toolset to take advantage of unforeseen market disruptions will be crucial to the success of any desk.

AWS storage facility. It's not just RFQ and execution data, we capture all-day streaming tick data at ten different levels for each currency pair that sits on the client's trading blotter. Of course, the client can trade on any and all of the streaming prices. But even if they don't, it's data that is still captured at the end of the day for further analysis. Right now, it's mostly used to compare risk transfer pricing at varying levels between a disclosed RFQ vs. a disclosed stream. FactSet has real-time tools that automate that

decision for the client and execute against the best available price on either session. Stored data can reach up to 30+ gigabytes a day and if you look at it closely enough, you can start to see pricing skews within the various levels of the book and how a client's direct credit counterparties are reacting to their executions immediately post trade.

It's this level of analysis that becomes extremely valuable and the closer it can be calculated in real time will



We want to empower traders with referential historical and real-time data, to give them the best opportunity to execute their orders in a pre-trade environment.

give trading desks the pricing transparency and edge they need to make the most “enlightened” trading decision. Having the continuous TCA feedback loop containing post-trade LP scorecards, market decay data for information leakage purposes, and curated small liquidity pools based on this data will create a real-time pre-trade decision analysis, which today, takes weeks or a month to build based on the historical TCA numbers.

Where do you expect to see your global growth coming from over the next few years with respect to providing new products and services to the FX market?

Over the next 12 months, we will continue to build upon our core technology stack, focusing on automated data-driven analytics for the front-end of the platform. We want to empower traders with referential historical and real-time data in a pre-trade staging scenario, meaning the trader will know precisely which execution tool (RFQ/Stream/ Algo/Voice) will give them the best opportunity to execute their orders at the best possible price within the market with the least amount of impact. FactSet’s technology will integrate real-time market data into these pre-trade measurement tools to help facilitate the next level of automated executions.

Additionally, we are also focusing on driving further innovations by digitizing voice trading workflows to bring enhanced operational efficiencies to traders across Asia. Looking to the future, we aim to build on our successes by further expanding our asset class coverage, offering more robust workflows for price discovery and trade execution against a growing list of currencies. Having established our position as a mission-critical and state-of-the-art solution for institutional global FX trading desks, providing a sophisticated platform where automation, data-driven analytics, multi-asset capabilities, and bespoke features come together in a compelling package, will continue to be central to our focus.



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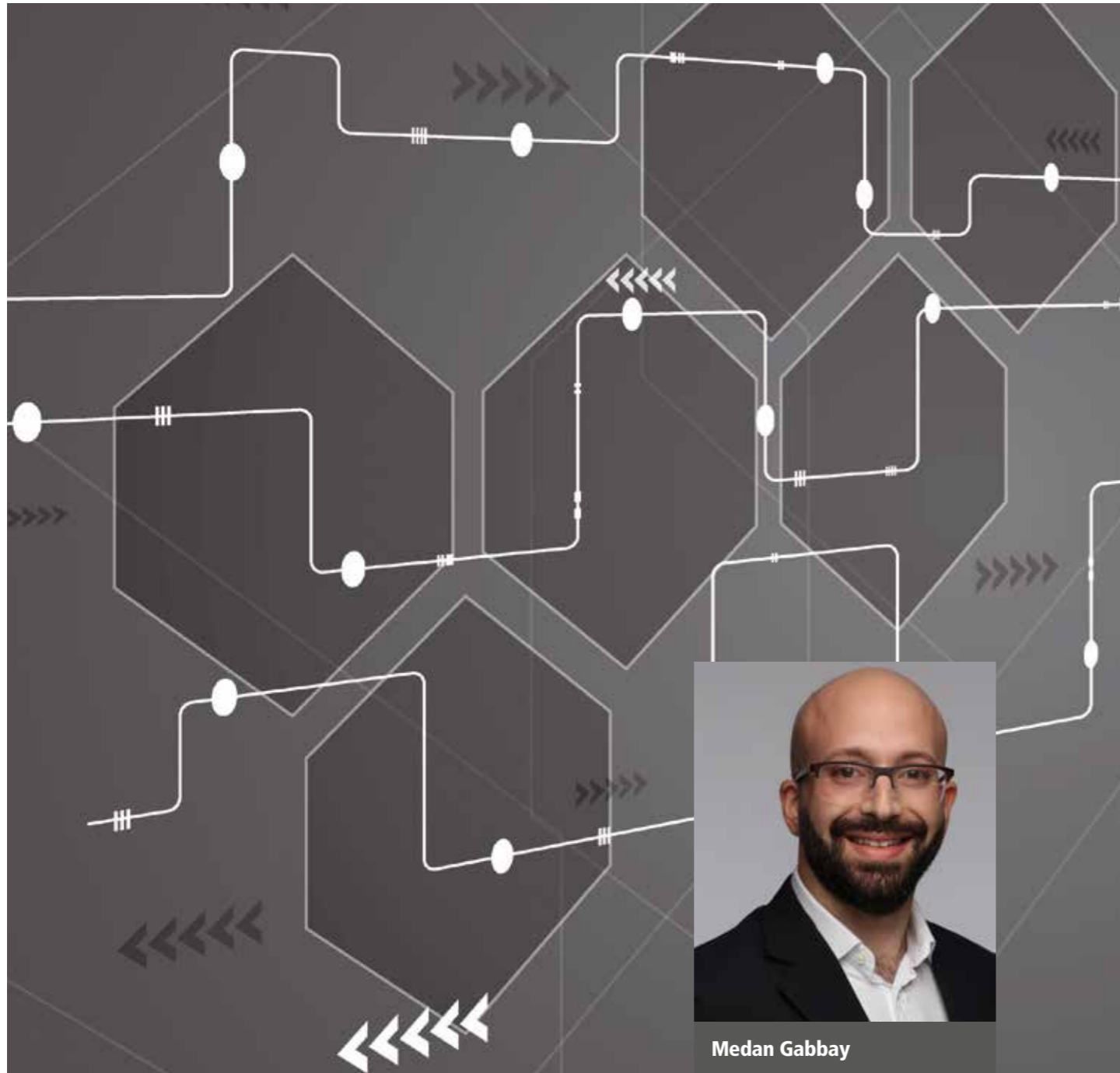
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The evolving role of the Smart Order Router in FX

In this article, Medan Gabbay, Chief Revenue Officer at Quod Financial, explores the evolution of Smart Order Routing in FX by looking at what are the characteristics of smart order routing and how it can address the changing needs and challenges faced by the FX market in the future.

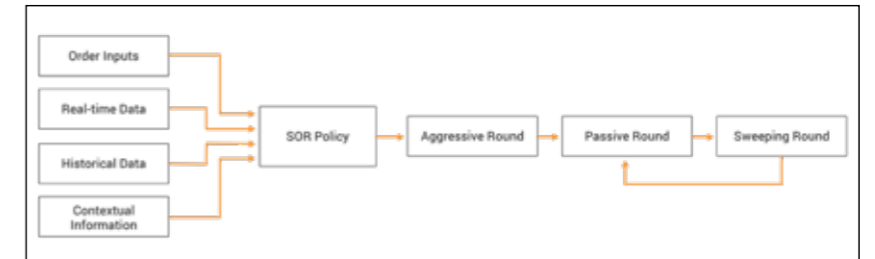
A Smart Order Router (SOR) is a component within an EMS (Execution Management System) that makes automated execution decisions on behalf of the trader. A SOR uses:

- **Order Instructions**
The criteria of the order provided such as size, time in force, aggressivity and preferred venues, etc.
- **Data (historical data)**
Historical data, hit ratios, slippage, and other benchmark information that may influence the execution behavior by directing it toward actions more likely to achieve the desired outcome.
- **Data (real-time)**
Current quotes and other real-time sources of data such as market prices, volatility, and the depth of both.
- **Business Context**
Firm based information including positions, profit & loss (P&L), and other executing orders providing netting / internalisation opportunities.
- **Policy**
A collection of settings within the SOR that are used to influence its behavior based on other inputs. This policy can be selected using pre-trade rules or automation, also driven by data. For example, a simple policy could contain parameters such as permitted visibility of passive orders, min / max child order size, acceptable slippage, permitted markets, etc.

All these elements are combined by the SOR within microseconds to determine the best action and are not dissimilar from the decision-making process undertaken by a trader. However, in the case of the SOR, the "gut" decision made by a trader is supplemented by the use of real-time data.

ALGO OR NOT ALGO?

A common question asked is



whether a SOR is an algo (algorithm). Technically, the SOR rests upon the same technology used to develop and engage in algorithmic trading. In a MiFID context, it can be argued that distinct from an algorithm, the SOR does not ever fail to execute on available liquidity. It never removes itself from the market or chooses to pass an opportunity to execute in the prospect of better future returns. The SOR is about the best possible immediate action and therefore does not require the same level of scrutiny as a more time-based automated policy. The answer is open to interpretation and we see clients deciding in both directions based on their internal evaluations.

EXECUTION BEHAVIOR

The SOR uses event-based action decisions to achieve an outcome that can be viewed in 3 distinctive phases.

1. **Aggressive Round-** The purpose of the aggressive round is to capture liquidity that is readily available to new orders. When a best execution order is received from a client, market data is obtained from all liquidity pools that list that particular instrument. The smart order router then creates different combinations of "solutions" to execute the available liquidity via one or more aggressive orders. It compares these solutions and chooses the best one based on a set criterion: price / liquidity and preferred venue ranking, their order of application, and input parameters. Once a decision is made on the given solution, the order that constitutes it

will be sent to the various markets.

2. **Passive Round-** The purpose of the passive round is to manage the position of the remaining quantity of the parent order. If there is little to no liquidity on the venues within the given limit in the aggressive round, passive orders will be placed on one or more venues or dark pools. The choice of the destination venue(s) is done based on the given parameters, order type(s), time-in-force, and the passive criteria and their order of application.
3. **Sweeping Round -** This is a transitory phase that connects Passive to Aggressive and back to Passive. The purpose of the sweeping round is to hunt liquidity through the rerouting of the remaining passive quantity. The algorithm continuously scans the various markets for compatible opportunities, and once found, will activate sweeping to capture this liquidity.

Based on the data sources and the defined routing, the SOR will continue through these phases until the order is executed, terminated, or expired. Its decisions, inputs, and outputs are all fully traceable and auditable to establish best-execution as well as route further improvements to the SOR itself.

SOR IN FX - A VERY MIDDLE-AGED AFFAIR!

Now that we have addressed what a SOR is and how it operates, we can examine some specific behaviours that bring value to the FX trading desk.

The evolving role of the Smart Order Router in FX

As FX has become increasingly electrified, the actual volumes traded in the interbank market as a whole are decreasing (as per CLS). Many of the large volumes driven by systematic and speculative funds have retrenched and the highly fragmented markets of 2012-2015 have given way to a consolidation of liquidity and a significant rise in Full Amount trading. (Full Amount trading is a social contract between liquidity consumer and market maker that an execution will be sent in its full amount and not split into smaller clips between liquidity providers or overtime).

Although we see a significant increase in the electrification of processes across all asset classes, the market consensus is that protecting your LP relationships is a priority over anonymous ECN / sweepable liquidity. It is in this world of highly electrified and positive-behaviour-driven trading that the new SOR must shine.

The Adoption of SOR is as much a tool to achieve effective workflows and save trader time, as it is to improve the outcome of specific execution.

SOR IN FX SWAPS / MULTI-LEG ORDERS AND CROSSES

It is possible to use a SOR to evaluate specific opportunities where a combination of Spot and Forward (FW) transactions may have an overall lower cost to execute than an equivalent Swap or a Broken Date ESP quote might outperform the equivalent IMM of the same date.

The goal of using a SOR is not just to compare Streaming Swaps vs RFQ rates to select the best price, but also to factor in the settlement, clearing costs, as well as any multi-leg execution opportunities that may offer a total lower cost of execution or risk 'Legging Out' (when you are left part-way through a multi-leg execution with no liquidity).

Even something as simple as avoiding a give-up charge or choosing to cross through EUR vs GBP vs USD could represent hundreds of thousands in savings over a year for many buy-side or sell-side firms.

SHAPING THE TRADE

In FX, one of the most influential factors in execution outcome is "shaping" the trade. Even in a mono-market execution, deciding how to split the clips to reduce impact or

slippage, or even whether the full-amount will achieve a better outcome is all data-based decision making that can be performed by the SOR.

Old SOR technology could often not be trusted to respect the Full Amount restrictions and so execution decisions were often completely siloed to avoid Sweeping Full Amount for example.

The new data-driven intelligent SOR can predict market movement, reject rates, last look behaviours, and respect LP relationships by adhering to constraints that protect your LPs from behaviors potentially viewed as toxic as well as mix different liquidity pools respecting rules for how to interact with them.

Examples of new SOR behaviour include:

Double Hit Protection

Ensuring that following any execution, traders are prevented from executing again for an agreed time window. This can vary based on the chosen LP, execution method, CCY, and market conditions. For instance, an emerging market (EM) CCY during low volatility could have a 45 second hit protection window allowing the LP to hedge their risk before the client can trade again.

Micro Volatility Prediction

Using AI/ML agents to predict volatility in a market over the next 100ms. This allows passive pegging to achieve 5-10 pip improvements (on average) in execution improvement by being consistently better placed in the market to capture the largest offset.

Stream Selection

Using historical data analysis to evaluate the likelihood of slippage or iceberg liquidity via different execution methods. A probability can then be used to determine if Full Amount, Aggressive Sweepable, or Passive liquidity



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It is in this world of highly electrified and positive-behaviour-driven trading that the new SOR must shine

The evolving role of the Smart Order Router in FX

will give a better overall execution in current market conditions, rather than just making a simple price-based decision on where to execute.

Streams may be prioritised by the SOR by evaluating:

- **Accept / Reject Symmetry:** Will trade be accepted or rejected in different market conditions symmetrically and can this behaviour be predicted to avoid rejection? Will adverse hold times impact other benchmarking metrics?
- **Cost of Rejects:** Ultimately, can the likelihood of having an order rejected be predicted, and can the ongoing cost of that rejection be measured? This allows traders to avoid the LP in specific conditions or remove them altogether where the cost of one rejected trade could outweigh the benefits of using them.
- **Hold Times:** Analysing the last look and hold times between placing trades and fills / rejects which could impact the overall execution quality of the trade, while also evaluating if including an LP in an aggregation of liquidity impacts the overall spread / execution analytics and decay faced while executing.

The powerful range of capabilities allows the trader to specify a more generic outcome, but allows the SOR to, within defined constraints, work out the very best way to achieve it.

ESP VS RFQ

An increase in the availability of Executable Streaming Prices (ESP) streams have also opened new territory to take advantage of SOR technology. ESP streams are no longer the exclusive domain of spot FX but are now regularly offered for Forwards, Swaps, NDFs, and even broker dated FW / Swaps. A trader can now send an IMM date to the SOR that is collecting data on thousands of real-time prices each second to execute with the best LP, rather than the traditional RFQ alternative limiting selection to a small panel of LPs while leaking intent to the market.

MULTI-MARKET AND ECN

Once the scope is expanded to executing across counterparties, as well as introducing passive opportunities, operating without a SOR becomes as dangerous as it is foolish. The SOR's microsecond decisions account for market movements, passive rebalancing, gaming protection, ghost liquidity, and High-Frequency Trader (HFT) participants. Without a SOR a

firm's participation in these markets simply becomes fodder for everyone else to profit from.

NEXT GENERATION OF SOR - DATA INTELLIGENCE

The evolution of SOR in FX has been the move from high-performance real-time decision making, to multi-workflow automated trading. However, the selection of these workflows are still highly limited to determinations made by the traders themselves. Configuring a SOR to decide between which ESP venues to execute what clip size on has evolved to a total decision between multiple streams of liquidity with different behaviours and rules.

The future evolution of this is to provide real-time feedback to the trader on workflows they may not have even considered through simulated decisions on millions of combinations of liquidity and execution methods: A true tool for smart order workflows and not just smart order routing. It is a paradigm shift that turns the concept of SOR on its head.

FX etrading has already automated a great number of routine jobs. The yesteryear trading floors with hundreds of traders on the phone are today replaced by a few silent traders manning exceptions in the systems that process in milli-to-microseconds tens of thousands of quotes and orders each second. In reality, machine learning (ML) will bring intelligent decision making to systems which for a very long time aimed to only become faster, but not always smarter.

ML will allow near time predictions and analysis which will drive systems and decisions. It means that the silent trader will now have a better understanding of what the system and overall market is doing. Any company not investing today in this area will be at the risk of not being competitive in the near future.



The Adoption of SOR is as much a tool to achieve effective workflows and save trader time, as it is to improve the outcome of specific execution

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DMALINK

One of the few independent ECNs offering access to institutional Emerging Markets FX pricing

DMALINK is a boutique electronic price discovery and execution venue for professional FX traders streaming anonymous, proactively tailored and sustainable pricing with particular focus on Emerging Markets, Scandie crosses and CE3. We spoke with Founding Partner Michael Siwek to learn more about his firm and the products it offers.



Michael Siwek

Michael, when was DMALINK launched and what are its core objectives?

DMALINK is a data-centric FX ECN founded in 2014 to address structural imperfections in the foreign exchange markets and resolve the governance and conduct issues raised by regulators. Our solution is multi-dimensional in that it offers a unique fee structure, it is emerging-markets centric and, most importantly, provides access to a benchmarked execution service based on independent reference rate data. We don't believe that market makers should pay to trade with clients. Our fair and transparent industry-alignment is reflected in the fact that market makers do not pay brokerage fees to

price the buy-side within the DMALINK ecosystem.

Secondly, we believe the market can benefit from a trading venue focused on regional access to emerging market currencies, powered by a Tier-1 Central Counterparty. This type of specialised, client-aligned platform did not exist until 2014.

Finally, we feel that clients and market makers can gain regulatory piece of mind, understand the real cost of execution taking into account slippage, market impact and other cost-related FX factors when using our benchmarked execution service. An aggregated and independent mid-rate, coupled with insightful market data, can help buy-side clients save considerable fees. The service enables bank market makers to demonstrate compliance to regulators. DMALINK is built around access to transparency and fairness without the additional add-on costs.

Please outline the range of products and services that DMALINK offers.

We offer execution, reporting, market data and benchmarked trading services

focused around currencies and precious metals. We are in the process of adding NDFs in Q4 2021.

What sort of clients are you providing these services for?

We service buy-side clients, including funds, asset managers, CTAs, corporates and regional banks. Our model is flexible, and we believe in going the extra mile to provide tailored solutions to clients with specific requirements. Our boutique-style approach to service is vital to clients and market makers in times of volatile market conditions.

You have said before that people are your greatest asset. Who are the key members of your executive team and what roles do they have within the firm?

Empires, nations and ideas rise and fall with its people. The same is true for businesses. We only hire people who share our passion for innovation and believe in the power of knowledge transfer amongst team members and the industry as a whole.

Manu Choudhary leads macro strategy across EMEA, expanding critical strategic partnerships and building out the product suite. Manu has over 16 years of front office derivative sales experience in the financial services industry. He joined us from Lloyds Bank in 2019, having worked at Barclays Investment Bank.

Ashwind Soonarane specialises in the formulation and implementation of strategic plans aimed at achieving innovation and competitive advantage. He further plays an instrumental role in the design and development of our proprietary technology.

Malkeet Sokhi has experience within the COO function and in delivering tangible results for front office executive management at the highest levels in several investment banks. He joined us recently to engage with banks on benchmarked-execution services, which helps compliance officers within financial institutions ensure that all foreign exchange trading aligns with current regulation.

Chris Park is a financial services professional with 25 years of experience across leveraged/M&A financing, liquid asset financing, corporate banking, retail banking, capital/financial markets. He is helping our corporate clients to extract maximum value from the DMALINK solution.

Please tell us a little more about your purpose-built EM FX trading and RegTech ecosystem and automated back-office infrastructure and what it's been designed to do.

The purpose of project DMALINK is to enable fund and asset managers to gain visibility over currency hedging costs using independent reference rate data, ultimately improving the funds' underlying investors' net asset

value. We believe investors can save multiple pips on each transaction. Our approach translates to a significant uptick in a funds returns over any given 12 months period.

How do you leverage technology to deliver ultra-low latency solutions and how do your clients benefit from your on-going investment in it?

When DMALINK incorporated, we were acutely aware of the growing importance of data, and in 2017, as we had predicted, data became the most valuable commodity in the world. We keep investing in solutions to provide our clients with better insight into their trading. Further, we are developing tools to facilitate compliance with ever-evolving regulatory requirements.

Where has DMALINK been looking to capture new opportunities in the fast evolving Digital Asset and Decentralised Finance space?

We believe focus is key to success. As such, DMALINK continues to focus on cash FX and precious metals. In 2020 central bank digital currencies (CBDC) moved from being a theoretical construct to actual development. This is interesting because it reveals the direction of travel moves towards tokenised representations of real-world assets.

We created a joint venture with WeOwn, a leading European blockchain company in response to this shift. Together, we launched DeFinity (www.definity.network). DeFinity aims to allow institutions to exchange conventional assets such as currencies, bonds, equities and commodities instantly and transparently in tokenised form using our proprietary blockchain underpinned by Tier 1 Bank custody services. We believe that digital

assets and DeFi will redefine financial services.

We are very bullish on the prospect. So are incoming investors who are presently in discussion with us to secure equity in DeFinity to future-proof their investment portfolios, balancing past and potential future losses resulting from Covid implications and knock-on effects to the broader economy globally. DMALINK users will immediately benefit from solutions introduced by DeFinity.

What plans do you have to broaden the international footprint of DMALINK and what does your product development roadmap look like for the coming year?

In addition to cash FX and precious metals, we are launching a data centre in Asia where clients will trade off-SEF NDFs.

DMALINK has deep domain knowledge of FX so what do you think are the critical factors that trading firms need to consider to ensure the continuous and scalable success of their businesses?

Clients must continue to push the envelope to understand the actual FX trading cost on a given venue or with a particular counterparty. Market makers must ensure the technological ability to meet regulatory requirements.

Trading firms will continue to be challenged by an ever-evolving regulatory landscape, especially when offering cross-border services. The key is not to resist but embrace regulation and use it as a stepping-stone to a more inclusive and fairer marketplace. Lastly, I feel that trading venues will have to align their fee schedules to ensure that participants are not double-charged.



DIGITAL CURRENCIES

CBDCs

How are central banks engaging with the rise of digital currencies

Central banks have been pondering for some years the benefits and risks of introducing digital currencies but events are now converging that may speed up their adoption, writes Richard Willsher.



Richard Willsher

Distinct from Bitcoin and other privately developed digital currencies not linked to existing fiat money, a central bank digital currency (CBDC) would be the digital form of an existing currency, which is under central bank control. The word “control” is crucial because core to the concept of a CBDC is that it is a tool for a central bank to manage its currency. It is also fundamental to conventional fiat currencies and digital ones that they are valuable because they are supported by their governments, unlike, say, Bitcoin, whose value is determined purely by supply and demand.

As the Bank of England’s March 2020 discussion paper: *Central Bank Digital Currency Opportunities, challenges and design* explains, currently a central bank issues two forms of money: banknotes for public use and electronic money “in the form of ‘reserves’ held in the Bank’s Real-Time Gross Settlement (RTGS) service.” A key debating point about CBDCs that a number of central bank papers and research documents have reviewed is if they will remain for wholesale use like reserves. Alternatively they could become another form of public money, used by individuals and businesses to transfer value, that is to make payments and to store value as savings.

A second key issue is how a CBDC would work. Some central banks have assumed that their digital currency would exist through the use of distributed ledger technology (DLT). For example The Saudi Central Bank (SAMA) and Central Bank of United Arab Emirates’ (CBUAE) Project Aber, whose final report was released in November last year, was based on DLT. The Bank of England has been keen to remain technology agnostic, “Although CBDC is often associated

The BIS summarises its principles and features in two tables:

1	Do no harm to wider policy objectives	New forms of money supplied by the central bank should continue supporting the fulfilment of public policy objectives and should not interfere with or impede a central bank’s ability to carry out its mandate for monetary and financial stability.
2	Ensure coexistence and complementarity of public and private forms of money	Central banks have a mandate for stability and proceed cautiously in new territory. Different types of central bank money – new (CBDC) and existing (banknotes, reserve or settlement accounts) – should complement one another. In addition, they should coexist in a wider payment ecosystem that supports public policy objectives and will include and support robust private money (eg commercial bank accounts).
3	Promote innovation and efficiency	Without continued innovation and competition to drive efficiency and effectiveness of a jurisdiction’s payment system, users may adopt other, less safe instruments or currencies, leading to less reliable payments, economic and consumer harm, and the potential erosion of monetary and financial stability. The payment ecosystem is comprised of public authorities (in particular the central bank) and private agents (eg commercial banks and payment service providers), both of which have roles to play in ensuring a high level of innovation.

There are three common guiding principles for central banks’ consideration of CBDC issuance that flow from their mandates.

Instrument features	Convertible:	To maintain singleness of the currency, a CBDC should exchange at par with cash and private money.
	Convenient:	CBDC payments should be as easy as using cash, tapping with a card or scanning a mobile phone to encourage adoption and accessibility.
	Accepted and available:	A CBDC should be usable in many of the same types of transactions as cash including point of sale and person-to-person. This will include some ability to make offline transactions (possibly for limited periods and thresholds).
	Low cost:	CBDC payments should be at very low or no cost to end users, who should also face minimal requirements for technological investment.

System features	Secure:	The CBDC system should be extremely resistant to cyber attacks and other threats. This should also include ensuring effective protection from counterfeiting.
	Instant:	The system should offer instant or near-instant finality of settlement of transactions.
	Resilient:	The system should be extremely resilient to operational failure or disruption.
	Available:	The system should be available 24/7/365 for use by the end user.
	Throughput:	The system should be able to process a very high number of transactions per second.
	Scalable:	The system should be able to expand to process potentially much larger additional volumes in the future.
System features	Interoperable:	The system should offer sufficient interaction mechanisms with private sector digital payment systems and arrangements to allow easy flow of funds between systems.
	Flexible and adaptable:	Every effort should be made to make the CBDC system flexible and adaptable to changing conditions and policy imperatives.

Institutional features	Clear and robust legal framework:	The central bank should have clear authority underpinning its issuance of a CBDC.
	Standards:	The CBDC system and participating entities should conform to the appropriate regulatory standards.

Meeting the basic principles requires a CBDC to have certain core features covering the CBDC instrument, the underlying system and the broader institutional framework in which they exist

Source: BIS - https://www.bis.org/publ/other/cbdc_summary.pdf

Source: BIS - https://www.bis.org/publ/other/cbdc_summary.pdf

CBDCs - How are central banks engaging with the rise of digital currencies

with Distributed Ledger Technology, we do not presume any CBDC must be built using DLT, and there is no inherent reason it could not be built using more conventional centralised technology."

PRINCIPLES AND STANDARDS

These and many other concepts and considerations to do with the adoption of CBDCs are all in play at present. It was useful therefore that the Bank for International Settlements (BIS) released an executive paper in October last year that addressed the main issues. *CBDC Central bank digital currencies: foundational principles and core features* was the result of work carried out by the Bank of Canada, the European Central Bank, the Bank of Japan, the Sveriges Riksbank, the Swiss National Bank, the Bank of England, the Board of Governors Federal Reserve System and the BIS itself. It focuses on a "general purpose" CBDC rather than a wholesale one but the primary principles it clarifies are key to wholesale or retail applications. "Safeguarding public trust in money, maintaining price stability, and ensuring resilient payments infrastructure are among the core means through which central banks support public welfare. Central banks' interest in CBDC has increased as a potential means of delivering their public policy objectives," it

says by way of background. But although the paper reviews ideas and is non-committal, it goes on to add significantly, "Profound, ongoing changes across finance, technology and society, as well as the ongoing Covid-19 crisis, provide additional impetus for research and experimentation related to CBDC." This may be central bank speak for "this now needs addressing."

WHY SOONER THAN LATER?

In an 1st December 2020 article for the Waterloo, Ontario based think tank Centre for International Governance Innovation, Kevin Carmichael interviewed Timothy Lane, the Bank of Canada's Deputy Governor about the future of digital currencies. "In February, we identified two scenarios that we would want to be prepared for," Mr. Lane explained. "One of them was the disappearance of the acceptance of cash, and the second was the emergence of digital currencies that might turn out to be disruptive in some way or might undermine Canada's monetary sovereignty. I would say that in the last nine months we've seen developments that look like they're in the direction of some of those things coming to pass sooner than expected. In particular, we've seen a shift away from the use of cash transactions much more rapidly than previously we thought was likely. How much

of that is temporary, just associated with the pandemic, and how much of it is the start of a new trend, I think, remains to be seen, but certainly that's something we're watching very closely."

He added, "We've said that there's a sense [that] definitely things are moving ahead more quickly. Although we don't know how long they're going to persist, it's more urgent for us to make sure that we're ready if we have to be ready. So, our work definitely has to move forward."

If these drivers are of concern to the monetary leaders of the world's tenth largest economy then it has to be relevant to many other central banks. A spokesperson for the Monetary Authority of Singapore for example notes, "We have seen an acceleration of adoption of digital currencies in the later part of 2020. The interest amongst central banks has also grown, and we expect to see more pilot trials by central banks."

By way of proof, research from Statista finds that the "total worldwide transaction value of digital payments segment is projected to reach US\$5,830,558m in 2021." It expects this to show "annual growth rate (CAGR 2021-2024) of 11.9% resulting in a projected total amount of US\$8,170,406m by 2024."

Correspondingly, the use of cash is declining rapidly. Research by YouGov among others finds that Covid has accelerated this trend. Sweden leads the pack YouGov reports, "[it] expects to become the first truly cashless society in 2023. Meanwhile the use of private sector digital currencies is beginning to burgeon. Bitcoin is the segment's poster child. On 5th January The Economist noted, "With every

PROJECT ABER

"Project Aber was an initiative launched by the central banks of Saudi Arabia and United Arab Emirates to explore the viability of a single dual-issued digital currency as an instrument of domestic and cross-border settlement between the two countries," explains the Project's final report.

Using what it terms "real money" lent the project additional dimensions such meeting security concerns and ensuring that the DLT-based system could interact with existing payment systems across Saudi Arabia and the UAE.

The project confirmed that a DLT system could work. It demonstrated that two closely aligned central banks could coordinate such a system. One conclusion reached

was that "DLT payment rails" could potentially be harnessed to underpin national and regional centralised RTGS systems.



Stakeholders of the Aber Ecosystem

Bitcoin worth about USD32,000, its total market capitalisation is now greater than the monetary base of Canada." On 4th January, research from a Dublin-based group called CryptoParrot found that underpinning the current bull run in the digital currency, "Bitcoin's 30-day average daily trading volume stands at \$39.1 billion, which is more than the U.S. top five companies with \$37.68 billion in 30-day average daily trading volume."

An increasing flow of statistics and projections seems to highlight the need for central banks to join the digital world with new versions of their currencies both to gain the benefits of doing so and prevent the erosion of their control of their jurisdictions' currencies.

BENEFITS

What then would be the benefits of a central bank adopting a digital currency?

It would firstly be an efficient and less costly method by which a central bank could issue currency. Cheaper and less cumbersome to issue and manage than bank notes and coin for sure.

It could also become the fast, efficient and secure infrastructure by means of which payments can be made and savings stored for an entire currency jurisdiction. In this regard it is a solution to address the steady decline in the use of cash.

In addition, this could extend to providing an up-to-date RTGS system underpinning efficient trading across capital markets.

Backed by the full faith and credit of the issuing central bank, it could present a less risky and speculative digital currency than privately issued stablecoins. Potentially a CBDC could become interoperable with other CBDC systems, though establishing exchange rates would of course be a significant consideration. One of aims of the Saudi / UAE Project Aber pilot was to achieve such an interaction, though as its final report points out, as the currencies of both jurisdictions are pegged, the exchange rate issue is readily addressed. There are however risks to consider.

RISKS

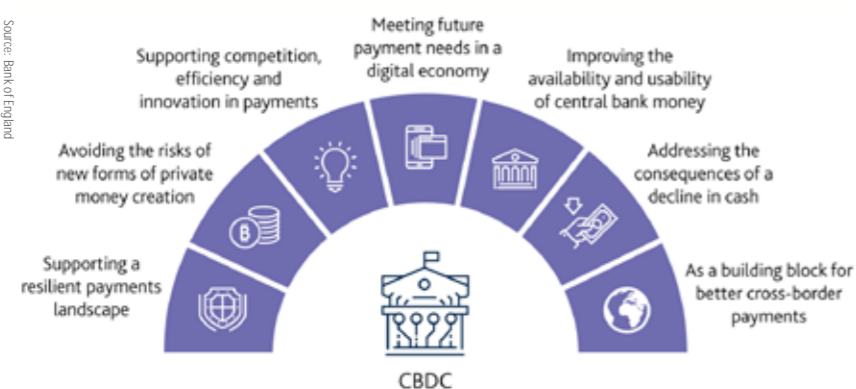
Security is, potentially a major concern. If DLT for example seems

secure at present, developments in ever more powerful computing tools and increasingly malign cybercrime may challenge central bank systems in the future. How agile a large system could be in its ability to respond to attacks is a moot point. Contrary to what technology vendors may say, nothing can be future proof forever.

A current concern of central banks is that private, non-fiat currency supported digital currencies can become widely used but be unregulated and uncontrolled. This is for some the appeal of Bitcoin for example. It enables easy cross border payments and, for individuals and businesses operating within poorly managed economies with weak currencies, Bitcoin can be viewed as a safe haven. That private digital currencies could also be conduits for money laundering and terrorist funding is however another face of the same coin, as it were.

Do central banks want to take on the job of providing and managing a system of payment spanning a whole economy? Perhaps not. The banking system currently intermediates this

Source: Bank of England



CBDC could present a number of opportunities for the way that the Bank of England achieves its objectives of maintaining monetary and financial stability

PROJECT UBIN

The Monetary Authority of Singapore's (MAS) multi-year Project Ubin launched in 2016 was "a collaborative project with the industry to explore the use of Blockchain and Distributed Ledger Technology (DLT) for clearing and settlement of payments and securities."

Its collaborative nature was stressed at every stage. It involved local and international banks and exchanges and MAS worked with The Bank of Canada (BoC) and the Bank of England (BoE) on the cross border payment and settlement aspects of the Project.



Significantly MAS is forthright about the aim of the project: "The project aims to help MAS and the industry better understand the technology and the potential benefits it may bring through practical experimentation. This is with the eventual goal of developing simpler to use and more efficient alternatives to today's systems based on central bank issued digital tokens."

Project Ubin was organised in 5 phases:

1. Tokenised SGD – to explore interbank payments using Blockchain
2. Re-imagining RTGS – concerned with interbank payment and settlement
3. Delivery versus Payment – settlement of tokenised assets across different blockchain platforms
4. Cross-border Payment-versus-Payment – working with BoC and BoE modelling enhanced cross-border payments and settlement
5. Enabling Broad Ecosystem Collaboration – examining the benefits of a multi-currency blockchain network to the wider financial industry and blockchain ecosystem

The Project as a whole provides insight into how a CBDC approach can operate at the core of national and international networks of markets, payments and settlements. Particularly with regard to payments, a MAS spokesperson commented, "MAS concluded Project Ubin as an experimental project in July 2020, and the key questions around the use of blockchain technology and how it can be applied to payments settlement have been largely answered. From a technology perspective, the challenges and obstacles have been largely resolved."

role, tagging products, services and costs to consumers and business into the process. If however central banks were to play a role there is a question over what role commercial banks perform. The Bank of England's discussion paper considers this, "If significant deposit balances are moved from commercial banks into CBDC, it could have implications for the balance sheets of commercial banks and the Bank of England, the amount of credit provided by banks to the wider economy, and how the Bank implements monetary policy and supports financial stability. Nonetheless," it adds, "CBDC can be designed in ways that would help mitigate these risks."

CONCLUSION

In summary, a review of the work currently being carried out on CBDCs by central banks across the world underscores that the nature of money is changing. Private digital currencies offer some advantages and some disadvantages while CBDCs offer others provided, in the view of the BIS, they can adhere to certain principles and incorporate features which together define them as consistent with the role of central banks.

But the game is hotting up. Covid 19 and enforced remote working and spending have accelerated the use of digital payments and the decline in cash payment. At the same time, digital assets are becoming increasingly mainstream. Consequently, central banks, (although several of them would not comment on their intentions and timing for this article) have been working on studies and potential scenarios which perhaps may come to fruition sooner rather than later.

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Risk Management:

Helping brokers get to grips with an increasingly multi-layered and mission critical process.

Nicholas Pratt sets out to discover what issues brokers should consider in order to implement more advanced and modern risk management programmes.



Nicholas Pratt

The pandemic-driven events of the last 12 months have demonstrated just how complex and critical risk management has become in the FX market. They have also highlighted the importance of implementing modern risk management programmes that employ automated workflow, rules-based risk engines and multiple technology stacks.

It may still be the same risks facing FX brokers – toxic flow, liquidity mismatches and risky trading behaviour – but Covid 19 has amplified these risks as volatility and trading volumes have both increased. For FX brokers, it has put their risk management strategy and infrastructure under the spotlight.

The Achilles heel that many FX brokers struggle with is the absence of an all-in-one risk management framework that monitors the entire company's trading operations and produces data-driven

analytical results and actions, on a fully automated real-time basis, says Cristian Vlasceanu, chief executive of Centroid Solutions, a trading technology firm.

"For example, many medium size FX brokers run their business using multiple trading platforms and services developed by different vendors. Very often those technologies either completely lack or include only a subset of risk management functionalities specific only to that trading technology and isolated from the other trading platforms. In addition, those systems do not have an out-of-the-box functionality to exchange data freely amongst one another."

As a result, says Vlasceanu, a lot of trading data is fragmented across different systems, causing brokers to perform substantial amount of time-consuming manual work, just to aggregate a complete picture about the risks involved. "This shortcoming results in a time-lag for critical risk related decisions based on current exposure dynamics. However, the ability to measure risks in real-time at the level of asset class, currency, USD notional, concentrations, and flow toxicity, is vital for identifying and

mitigating risks in a timely manner, especially during times of high market volatility."

Covid-19 has brought an increased volatility into the markets, leading to higher volumes and increased client engagements. However, volatility is also a proxy for risk - the higher the volatility, the higher the risks, says Vlasceanu. "Therefore, during such times, it is especially important for FX brokers to have proper fully automated real-time risk management solutions to cope with market movements and associated risks."

Most FX brokers lack the expertise to build their in-house risk management



Cristian Vlasceanu

"Proper risk management technology cannot work in isolation and must be an all-in-one solution, covering all areas of risk management with centralised visibility over the entire operations and all data"

“Professional risk management systems are able to distinguish and detect the true toxic flow and effectively mitigate it.”



Andrei Savitski

to establish clear visibility of revenue drivers and proper classification of customer flow, says Andrei Savitski, Centroid Solutions’ Global Business Development Manager. “One common misconception of many small to medium size FX brokers who run hybrid business models, is that their revenue is coming primarily from taking the other side of the trade and benefiting on the b-book from client losses. However, in practice, on average, over 70% of a hybrid FX broker warehousing revenue is coming from the spread and commissions, and this data is supported by the published financial performance reports of large publicly listed FX brokers.”

“In other words, established FX brokers, operating for years, have been focusing on providing consistent quality execution to their clients in order to grow a loyal customer base and trading volumes, and thus capitalise on the main revenue driver: spread revenue, regardless of the market dynamics. Thus, established brokers focus on filling the client first, followed by an advanced internalisation process,” says Savitski.

TOXIC TRADES

The key to a successful hybrid business model is to have an execution technology that is able to single-out toxic trades in an intelligent manner, based on real-time risk analytical results, says Savitski. “Another misconception by many FX brokers is to perceive profitable client flow as toxic flow. However, this is not necessarily the case. Professional risk management systems are able to distinguish

and detect the true toxic flow and effectively mitigate it,” he adds.

“For instance, nowadays, we see more and more automated trading strategies from clients which track latency and benefit from discounted prices to go in-and-out of the trade within milliseconds, not allowing a hybrid discounted broker to hedge the exposure or crossmatch it with counterparties. That is why, in addition to proper analytical tools, it is highly important to have an execution capability that would detect and STP toxic trades, in real-time, at the point of execution. The need for advanced execution solutions, driven by real-time risk management and data analytics, is apparent in this situation,” says Savitski.

It has also become essential to use a rules-based risk management system in order to classify, allocate and optimise clients’ flow in difficult market conditions, says Savitski. “FX brokers must deal with a multitude of quantitative risk factors simultaneously, at many different levels: portfolio, asset class, instrument, currency, client and trade. The main benefit of a rule-based risk management system is that it offers precise control for identifying and handling risks at the level of individual trades. It allows to track any combinations of risk factors in real-time, and allocate clients’ trades, on-the-fly, at the point of execution. It also offers maximum flexibility for adjusting risk parameters and optimizing trade flows under different market conditions. We believe that risk cannot be looked at in isolation of the balance sheet of the broker, therefore, brokers should set risk limits in relation to volatility, balance sheet, and the nature of their flow from an exposure holding period perspective. A rule-based risk management system offers the flexibility to define such risk strategies, in advance, to control and

manage any market environments,” says Savitski.

WHAT TO LOOK FOR FROM A PROVIDER

So what should an FX broker look for in a risk management provider? “It is important to look at a provider that specializes in this field and comes from a practical background because risk management technology must produce relevant analytical insights which address real practical needs of the broker’s dealing desk,” says Vlasceanu.

“Proper risk management technology cannot work in isolation and must be an all-in-one solution, covering all areas of risk management with centralised visibility over the entire operations and all data. Additionally, the risk management technology must provide maximum level of automation, producing analytical results in real-time, to eliminate manual data crunching and empower the dealing room and executives with proper business intelligence and up-to-date decision-making information.

“Moreover, each broker has its own view about risk, so a risk management technology should be flexible to



Lea Wang

“The underlying infrastructure of any given software determines its sustainability and future development, which also directly impacts the users, but is often overlooked”

“With rules-based risk management systems, you can have cross-workflows and switch between market environments and trading sessions”



Brian Ellison

accommodate bespoke customisations easily, to meet unique requirements and preferences of each FX broker. Finally, risk management must not be disconnected from the trade execution process. It is becoming increasingly important to have an execution technology that is able to work based on the real-time risk analytical results, in order to address risks automatically, at the point of execution,” says Vlasceanu.

PROS AND CONS

While the use of automation has increased, manual risk management still exist and balancing the two is one of the biggest risk management issues facing FX brokers, says Lea Wang, executive vice president of a Cyprus-based trading technology provider PLUGIT. “Each way has its pros and cons. With manual management, the risk team can identify various risky trading behaviours, but it may not be as efficient because it is totally based on the experience of the risk manager. Risk management tools are usually based on pre-defined rules, so they are highly efficient but cannot react as quickly when it comes to unrecognised or undefined risky behaviour,” says Wang.

But getting the best of both worlds is not as straight-forward as it should be, says Wang. “We often hear from brokers there aren’t enough tools in the market that can help them manage risk in a cost-efficient way. Good tools are usually expensive, whereas more affordable tools may have very limited features and functions.”

When it comes to identifying the right technology partner, Wang highlights the importance of the technology infrastructure. “This is often overlooked by brokers but the underlying infrastructure of any given software determines its sustainability and future development, which also directly impacts the users. Two systems may have similar functionality but if one is built on an outdated technology it may have quite a few limitations – an inconvenient user interface, difficulty to upgrade and debug, a longer overall time to fix when there are issues.”

One of the biggest risk management issues we see brokers face is the exposure to risk during times of unexpected volatility, says Jalal Faour, chief executive, and founder of PLUGIT. “In addition, liquidity providers are often increasing margins when they anticipate volatility, which means brokers need more margin to cover exposure during these times.”

The use of risk-related data and analytics can not only manage liquidity issues but also have a dramatic impact on the bottom line when used in the dealing room, says Faour. “The ability to identify high risk clients in advance and take both manual and automated

technology, especially given the growing complexity of logic involved and the vast amounts of data that needs to be processed, simulated and analysed in real-time, so it makes sense to turn to third party market. Fortunately, says Vlasceanu, as firms have moved away from their own in-house technology to mainstream trading platforms, integration with external risk management systems has become easier and more cost efficient due to the reduced cost of computing power and connectivity.

One of the main benefits of a proper risk management system is that it helps



Jalal Faour

“The ability to identify high risk clients in advance and take both manual and automated measures of protection is of significant value to any dealing desk”

measures of protection is of significant value to any dealing desk. The key is providing a visualisation of the risks on the book and also providing automated tools to mitigate risks such as dynamically adjusting margins based on client exposure."

Automation is critical to optimising risk management technology for the retail FX brokerages experiencing high volumes of clients and activity beyond what can be catered for by manual processes as well helping brokers to hedge positions, says Faour. "Automated dealing tools and bridges can provide huge benefits to market makers looking to hedge their exposure without human intervention. They can also handle complex hedging models that it would be impossible for a human dealer to mimic. Again, this all impacts the bottom line so the smarter the broker and the more technology they use in this area the more profitable they should be."

Experience and a deeper understanding of brokerage and market-making models are essential when looking for technology partners, says Faour. "Solutions developed around experience typically excel. The quality of the tools and how they work should also be assessed and properly understood. It may sound cliché but relationships count and finding a provider that is there to support you at all times has true value."

LIQUIDITY RISK

Due to the volatility created by Covid 19, the biggest risk facing FX brokers currently is matching liquidity with taker behaviour, says Brian Ellison, product designer at trading technology firm oneZero. "Brokers need to price clients appropriately, by making sure they are facing the right liquidity in liquidity pools, and classifying each of the takers according to the appropriate risk bucket. Covid 19 has brought

about increased volatility, changing the profile of the takers. With that comes the reclassifying of takers into appropriate categories, and with the various market swings, it has become harder to match the takers to the liquidity to ensure that you are hedging that appropriately."

In order to manage your liquidity and risk management brokers need to ensure they have reliable, curated, clean data on their customer flow, says Ellison. "We have spent a lot of time making sure curated data is available to clients," he says. "This includes interactive, visual web-based analytics that enable brokers to answer key questions that help them understand the characteristics of their client flow and associated hedges, and the relationships they hold with their liquidity providers."

Building automation into risk management workflow is also one of the key elements for successful retail FX brokers, says Ellison. "With automation and systematic hedging, you can do a lot more with less. Machines are much more efficient than humans at managing risk, as they are able to look at more data sets faster. You are leveraging compute technology versus human brain reaction time. If you aren't automating, you are probably missing opportunities because you are too slow to respond. You may be increasing your risk tolerance and threshold without knowing it."

Technology also helps brokers to hedge positions, by reacting to the inputs that you have provided, says Ellison. "oneZero has built a risk management system that can take in all kinds of inputs, whether positional, time, profitability or taker, and the technology hedges the positions accordingly. Our technology takes in all the inputs, monitors the market and all the thousands of variables that are

happening throughout the day, and creates the output you are requesting."

There is definitely greater use of rules-based risk management systems, says Ellison. "The inputs can be based on volatility surrounding market events or even trading sessions. You want to be able to switch your risk management and hedging profiles according to what is happening, for example if there is an economic number release, or you might like to price differently depending on the market, for example Asia or US. With rules-based risk management systems, you can have cross-workflows and switch between market environments and trading sessions."

Ultimately, says Ellison, brokers need flexibility for their inputs and reliability for their outputs. "You need a system that allows brokers to make thousands of maker rules, while being very consistent in the output. Of course, the technology also needs to be stable enough to handle all the different inputs without crashing."

BLESSING AND A CURSE

2020 was both a blessing and a curse for many FX brokers, says Albina Zhdanova, chief operating officer of Tools for Brokers. "The pandemic created a demand for people to have alternative sources of income, which caused a spike of new traders joining the market. Many brokers experienced rapid growth and had to quickly adapt new strategies and products to maintain and improve their service levels. Another big risk continues to be high market volatility. When the market goes up and down, there is a temptation to risk more. But where there is big profit, there is a big loss. So what we saw was many brokers looking for ways to protect their traders and themselves from any extra risks by implementing various tools, such as that control accounts'



One of the main benefits of a proper risk management system is that it helps to establish clear visibility of client data and proper classification of customer flow

leverage, margin levels, and other high-risk parameters."

As the market has evolved, the importance of risk management has become more evident, as has its promotion, says Zhdanova. "Whether it is through blog posts or rolling out products on the markets, there is definitely more conversation about it than it was maybe a few years ago. As a result, more brokers educate themselves, realise the importance of risk management, and look for solutions for their companies."

Brokers have also realised that the data from risk management systems can be



Albina Zhdanova

"A lot of the potential issues or threats can be avoided if brokers choose to monitor and run reports on their data regularly."

viewed as business intelligence that can enhance their performance in multiple ways, from getting timely alerts about strange behaviours and acting accordingly, to reviewing the history of trading, analysing the trends, and updating the strategy, says Zhdanova. "There are countless insights that data analytics provides which help optimize the processes. A lot of the potential issues or threats can be avoided if brokers choose to monitor and run reports on their data regularly."

The right technology will also help brokers to hedge their positions by providing the data statistics to analyse historical trends and make forecasts, says Zhdanova. "It will also help process large quantities of data quickly, make quick decisions, get notifications on any abnormalities to correct their action plan."

In addition to regular data reviews, automation is the other critical component to risk management," says Zhdanova. "I cannot stress enough how critical automation is for brokers. Brokers deal with enormous amounts of data, and any delay or mistake can

result in reputation damage, loss of clients, and sometimes even lawsuits. Automation helps avoid delays, human errors and free up the time for analytics, business process optimisation, and conversations with prospects. So, automation is one of the factors that help companies grow."

Zhdanova says there are two key properties that brokers should look for in their technology partners. "First of all, the best partner would provide an ecosystem of products to the brokers. It can work to have multiple vendors installed together in a single environment. However, should something happen, such as a server going down, it is much easier to troubleshoot and fix the issues if there is only one vendor involved. The same goes for updates and patches - once one of the tech products releases an update, there is a risk that this new edition will cause errors with the rest of the infrastructure."

Secondly, says Zhdanova, a broker should understand their technology partner's core beliefs and strategy. "It may not sound too critical but it will determine the future direction of the partner, what products they release next, and what they consider important."

Exploring the benefits of more customised FX liquidity pools

By Noel Singh, Head of eFX Business Development at Sudden Financial.



Noel Singh

Historically the prime of prime (PoP) business model evolved from clients, most typically retail brokers, requiring access to multiple single dealer liquidity providers (LPs) but without sufficient capital to secure a tier one bank prime broker. The PoP model places better capitalised firms between a tier one bank PB who provides the PoP credit access to LPs and the PoP which faces the end client via a credit/margin relationship. A PoP typically uses third party technology to connect to the LPs then aggregates and distributes liquidity to the end user as a single stream of prices.

At its inception the PoP offering was largely a one size fits all solution often inhibited by the limited features of the LP eFX streams. However, with advances in technology competition from non-bank market makers, LPs now offer multiple streams.

These factor in differences in client demands such as tight prices with a small top of book for retail flow or full amount streams suitable for single ticket execution, in addition to legacy sweepable streams.

DRIVERS TOWARDS THE POP MODEL

Recent market events such as the SNB removal of the EURCHF floor caused many prime brokers (PBs) to reassess their capital requirements for clients. It meant many clients were forced to seek alternative solutions for liquidity and credit provision, with many landing at the doorstep of top tier PoP providers. Additionally, many PBs such as Rabobank pulled out of the FXPB sector

completely, thus compounding the drive towards the PoP model. Many of the clients seeking alternative liquidity and credit solutions were small hedge funds or proprietary trading firms. Both have very different liquidity requirements to the traditional retail FX client base, forcing major PoP providers to offer far more bespoke credit and liquidity solutions. This evolution in PoP services has in turn attracted more institutional clients to the PoP sector.



Exploring the benefits of more customised FX liquidity pools

As mentioned, not all clients in any given sector have the same liquidity requirements and flow profile. However, it is worth discussing some of the common requirements and associated PoP bespoke solutions available.

As volatility continues to remain at historically low levels and taking into account the fact that spot FX remains a very low yielding product, many firms are expanding their currency trading universe to include more exotic currencies such as TRY/RUB/ZAR/CEE. The role of the liquidity manager at PoP firms has become far more key to providing customised solutions. LPs are now able to provide PoP firms with multiple streams which will often include features such as EMFX and inventory skew. Therefore, the skill of the liquidity manager is creating a bespoke stream which most suits the client's requirements. The PoP/ client relationship has become a much stronger consultative one. As tier one Bank PBs withdraw the availability of credit, especially in local markets, the role of the alternative liquidity provider has become more important in recent years. It is worth repeating that flow from a specific client sector, for example retail flow may differ greatly from client to client, therefore the old solution of one size fits all no longer exists. Factors such as average

ticket size, round trip requirements, regional currency and third-party costs all define the mix of LPs available to a client's bespoke pool of liquidity.

Many clients forced to exit tier one bank PBs initially struggled with the transition from their own direct disclosed access to LPs with a single stream of aggregated liquidity. However once the value of alternative liquidity providers was understood, many firms large enough to secure a tier one PB now actively choose to outsource some, if not all of their liquidity management requirements to non-bank liquidity providers.

NAVIGATING CHOICES

Given the proliferation of non-bank liquidity providers seemingly offering similar services, how does a client navigate the wide choice to find the most suitable fit? For larger firms able to secure a tier one PB, the first choice is whether to face a non-bank liquidity provider via a give up agreement or whether they wish to enter a direct credit relationship. In either event, clients should look to choose the best in class, taking into account liquidity management experience and technology providers. Choosing industry leading technology is a key component to building a viable and sustainable eFX business. Credit worthiness and balance sheet

is also a key consideration for clients wishing to face their liquidity provider, especially when placing collateral or client money as initial margin.

One of the most significant technology developments in recent years has been the availability of post trade data analytics tools, which help providers identify the balance point between their commercial interests and those of their counterparties. Relationship-based trading is emphatically not a zero-sum game, it is entirely possible for both taker and maker to win (and for both to lose). New technology exists to help firms such as Sucden Financial to identify mutual opportunities so that they can all ensure their businesses are commercially sustainable in the long term.

Here at Sucden Financial we made an active choice to partner with an independent and innovative firm – FairXchange. Their Horizon product greatly enhances the liquidity manager's role and provides a holistic view across our entire business in terms of both clients and our valued liquidity providers. This is particularly important when flow is routed over multiple channels (e.g. Integral and SmartTrade) – we require a normalised view of everything, as opposed to having to compare two systems with completely different formats.

Because our clients – the ultimate originators of the trades -are not in direct contact with the liquidity providers, it is incumbent on intermediary firms such as Sucden Financial that sit in the middle to provide the necessary feedback to them on the flow they execute. Competitive liquidity is not a given, to earn and retain it takers must understand their responsibilities for trading in a responsible fashion. The data provided in Horizon helps

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The PoP/client relationship has become a much stronger consultative one

those individuals managing client relationships to craft a narrative to share with their customers on how their LPs may be faring with their flow. This also helps salespeople respond to client feedback – which until recently may have forced them onto the back foot and feel obliged to make changes that undermine their own revenue. If a client’s liquidity has changed (increased rejection rate for instance) we can now often tell clients why.

Forward-looking firms like ours are also using this information to gain a competitive advantage pitching for new business in the PoP space, by showing there is a data-driven process underpinning their liquidity management. Until relatively recently, data-driven decision making has been the province of a small number

of highly qualified individuals (i.e. quants) within a firm. There is now broad recognition that data forms a fundamental part of everyone’s day job. If it is to be used by everyone, this means that the data needs to be presented in as accessible a fashion as possible. Too often quantitative analysis is overly intimidating to people who don’t have mathematics degrees – FairXchange has spent a lot of time researching the science of data visualisation to make sure anyone who needs to work with the data provided, is able to make sense of what they are looking at, with the minimum of effort. Thus, provide tangible feedback to their clients.

It is important for clients to consider the independence of their PoP’s choice of data analytical provider and if that

provider is now owned or paid for by the end LPs – this is key to providing a completely impartial view. Independent data is our most valuable asset, and the right choice of technology partner is the key to supporting our drive to optimise client liquidity.

FILLING THE VOID

Earlier I discussed how tier one banks and prime brokers are withdrawing credit intermediation facilities to tier 2 and 3 banks, thus leaving traditional institutional clients searching for alternative providers such as Sucden Financial. Clients are also telling me that tier one banks are limiting OTC products to spot only, or at the most short-dated swaps in majors, thus leaving a void for clients seeking EM or NDF currencies and swaps and OTC FX options. This has provided non-bank liquidity providers the opportunity to fill the gap in bank product offerings with streaming NDFs and aggregated OTC FX option services. Lastly many clients require full financial settlement of their FX trades due to commercial requirements, however more and more banks are reluctant to extend sufficient daily settlement limits. Institutional clients are left searching for bespoke aggregated deliverable liquidity with the flexibility of same day settlement out to multi-year tenors.

So in summary there are factors pushing and pulling institutional clients away from traditional tier one banks and prime brokers and seeking the bespoke aggregation and liquidity services of non-bank liquidity providers. Clients should interrogate a provider’s skill at selecting best-in-class third party aggregation and distribution technology, plus innovative post trade data analytics tools to support the continued curation of bespoke liquidity. Lastly financial security is a major consideration when choosing an alternative liquidity provider.



There is now broad recognition that data forms a fundamental part of everyone's day job

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