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# e-FOREX

e-forex.net JUNE 2020

## BEST EXECUTION

Choosing your strategies

## MARKET IMPACT

Calculation and visualisation

## e-FX IN SINGAPORE

Moving towards critical mass

## BUYSIDE CONSIDERATIONS

The challenges of FX EMS selection and OMS integration

## PEOPLE & MACHINES

What the future holds for FX

## RISK MANAGEMENT

Evolving platform trends



COVER INTERVIEW

**DAVID MECHNER**

CEO of Pragma

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June 2020

Our regional e-FX perspective feature in this edition is focused on Singapore which has worked hard to attract major e-FX players over the past few years. The Monetary Authority of Singapore (MAS) has been hugely important in this endeavour by supporting its local FX market and promoting Singapore not only as a leading pricing and trading centre but also as a node of technology excellence. MAS is keen to see more regional banks, asset managers, funds, and brokerages take advantage of the infrastructure in Singapore and add to its already diversified base of FX market participants. The city state has a lot going for it geographically and its pro-business environment and growing e-trading ecosystem has recently started to pull-in increasing numbers of institutions who have committed to building low-latency electronic FX infrastructures in the region. The trouble and disruption in Hong Kong is also proving advantageous to its rival which is seen as a stable and highly regulated environment in which to do business. Singapore has also managed to weather the worst of the current Covid-19 crisis and its FX market appears to have remained resilient during the volatility and turbulent events brought about by the pandemic. All in all the outlook for Singapore as a regional hub for FX trading is very positive.

There is also good news from our Peek Ahead feature which has summarised an interesting report: (The Future of Trading: The People) produced by Refinitiv and Greenwich Associates. It seems that technology is unlikely to make humans obsolete in FX, but will free them up for other tasks. They will have more time to work one-on-one with clients and focus on activities that save costs, add value or increase revenues. Over the next few years investing and trading decisions for example will still need to leverage human intuition, while data analysis and trade execution will become increasingly automated and more efficient. So despite advances in AI and data analytics, people will remain in charge and perhaps most surprisingly the increasing sophistication of technology will even create new jobs and opportunities for top-tier talent. Technology innovation also promises to make interaction between people more efficient, as the buy side continues to look to the sell side for market colour, capital commitment, research and other value-added services.

As usual we hope you will enjoy reading this edition of e-Forex.  
**Charles Jago**, Editor

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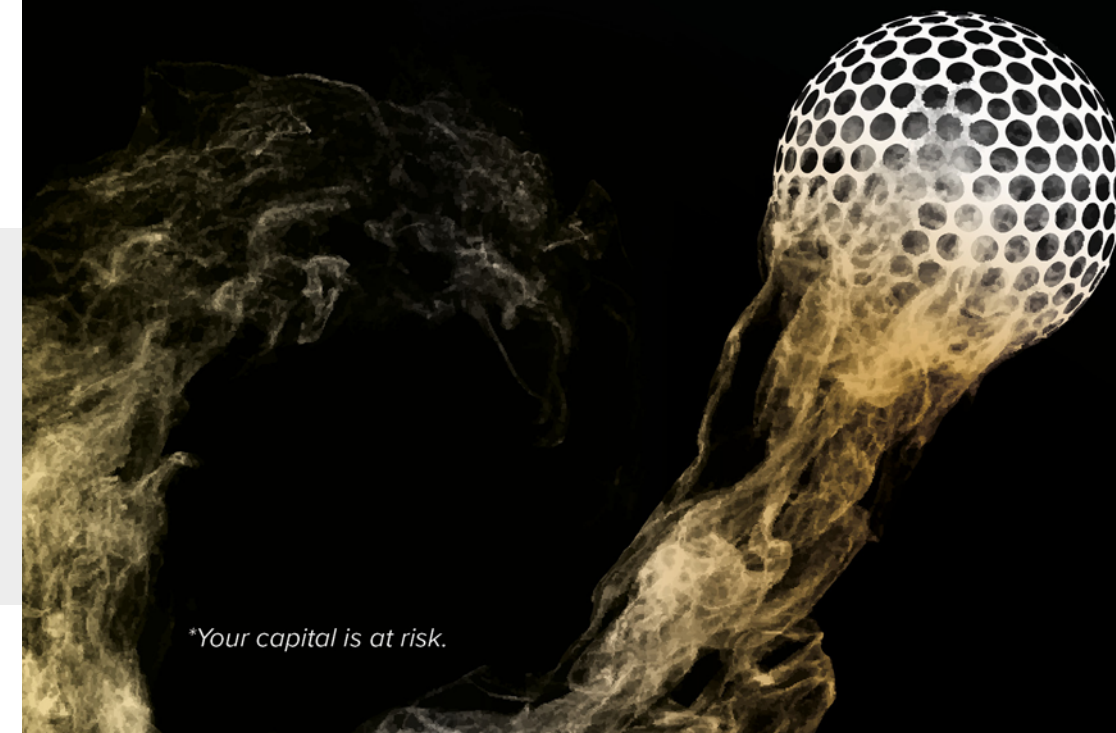
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## Goldman Sachs joins cross-currency swaps settlement service

CLS and IHS Markit have announced that Goldman Sachs has joined their cross-currency swaps settlement service. There are now eight settlement members live on the service, including some of the largest global banks. The service is an extension of CLS's unique payment-versus-payment (PvP) settlement service and uses the MarkitSERV trade confirmation platform to allow CLS Settlement members to send their cross-currency swaps into CLS Settlement for settlement.



Keith Tippell

Keith Tippell, Head of Product, CLS: "We are delighted to welcome Goldman Sachs as the latest participant in our cross-currency swaps settlement service. Demand has never been higher from market participants for risk mitigation, liquidity optimization and post-trade efficiency."

## Sucden joins TrueFX network

TrueFX, a purpose-built OTC market designed for the buy-side, has announced that Sucden Financial has joined as a TrueFX Clearing Member (TCM) to support their clients access liquidity on the network.



Wayne Roworth

"We are pleased to be joining the TrueFX network as a clearing member and offer our clients access to this service with valuable connectivity to the marketplace. TrueFX is an exciting development for the FX market and we are proud to demonstrate our commitment to this initiative." Said Wayne Roworth, Co-Head of eFX at Sucden Financial.

"Having Sucden Financial join the TrueFX Clearing Member network greatly enhances the offering available to clients and allows TrueFX to service many more segments of the buy-side community," said Harpal Sandhu, CEO of Integral and technology provider for TrueFX. TrueFX allows for unlimited small tickets and includes connectivity, aggregation and MT4/MT5 bridging technology free-of-charge.

## BidFX enhances mobile app

BidFX has announced a major upgrade to its mobile app to meet growing demand from market participants to securely manage and trade their spot FX, forward and NDF positions when working remotely. The latest version of the app enables traders to track and amend orders originally entered into office desktop computers via their mobile phones.

Commenting on the newly enhanced app, Alan Dweck, Chief Operating Officer at BidFX, said: "This unprecedented health crisis is splitting office and remote working. As some of the worlds largest financial institutions adjust their working practices to fit this new environment, it is imperative FX technology keeps apace. This latest version of our app provides traders with the full desktop FX trading experience directly from their mobile."



Alan Dweck

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## Celer deploys CMC Markets Direct API

CMC Markets Institutional has announced an integration of its Direct API with the price distribution and order management platform of eFX trading solutions provider, Celer Technologies.

Richard Elston, head of Institutional at CMC Markets, commented: "Celer Tech's deployment of the Direct API feed allows our prices for almost

10,000 different instruments, covering a range of indices, commodities, FX pairs, treasuries and single stock CFDs to be integrated with wider pools of liquidity for those clients who elect to use this service. We see this as being an increasingly popular solution for those customers who are seeking multi-asset exposure, but find themselves constrained by the FX-centric provision of other liquidity providers."



Richard Elston

## Digital Vega introduces Hydra Exotics

Digital Vega, provider of the market leading Medusa multi-dealer FX options platform, has introduced Hydra Exotics, a unique new solution for active FX Option users. Working closely with several core clients, Digital Vega has



developed Hydra Exotics from the ground up to deliver an entirely new holistic solution. Hydra will provide a feature rich, end to end execution and workflow management solution for active users of all option types. Until now, FX option multi-dealer platforms provided only a limited range of services; indicative pricing, aggregated vanilla liquidity across a limited range of simple structures, a smattering of 1st generation exotics and a suite of standard reporting/ analytics aimed at the average user. Hydra Exotics now takes a huge step forward and delivers rich, next generation functionality – single dealer capabilities in a multi-dealer environment.

## BCV launches second level white-labelling services

smartTrade Technologies has announced that Banque Cantonale Vaudoise (BCV), a Swiss cantonal bank, has rolled out a second level white-labelled FX services powered by smartTrade Technologies, to some of their clients.

BCV has been using LiquidityFX (LFX), smartTrade's end-to-end Foreign Exchange (FX) trading platform, for several years. The platform includes functionalities such as connectivity, aggregation, order management

system, distribution, risk management, post-trade and a highly customizable HTML5 user interface.

Eric Vauthey, Head of Trading at BCV commented: "Our first client, The Banque Cantonale Neuchâteloise is live, and very pleased with this new service. Many of our customers were looking for this kind of service and within the context of COVID-19 this need is even stronger now as it allows them to ensure business continuity through electronic trading."



Eric Vauthey

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## Saxo Bank signs new white label agreements

Saxo Bank has signed white label agreements with five Danish banks (Sparekassen Vendsyssel, Sparekassen Thy, Middelfart Sparekasse, Frøs Sparekasse and Jutlander Bank) through an integration with SDC, a leading data centre and IT infrastructure provider to more than 120 banks in the Nordics, to provide clients with industry-leading investment platforms and technology.



Kim Fournais

Commenting on the partnership, Kim Fournais, CEO and Founder of Saxo Bank, said: "We are very proud to sign this landmark partnership with a group of Danish banks. It has been a very constructive process, where we have leveraged our expertise of building white label solutions and worked closely with the participating banks to fully understand their clients' and advisors' needs. The end-clients will gain access to our market-leading trading and investment platforms and our partners in SDC will save on IT-costs and cut complexity, which will enable them to focus even more on servicing their clients."

## LMAX Group launches Weekend FX service

LMAX Group has launched a Weekend FX service that will enable clients to trade outside of market hours for the first time on institutional grade exchange infrastructure. Weekend FX operates from Friday 17:05 EST to Sunday 17:00 EST, a period when the spot FX market is closed, allowing clients to trade margin FX 24/7.

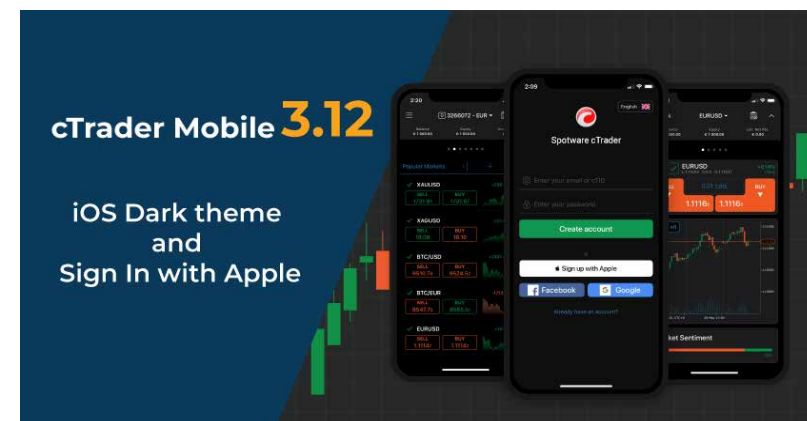


David Mercer

Commenting on the launch, David Mercer, CEO of LMAX Group, said: "The last few months have reinforced the common understanding that volatility doesn't stop on a Friday night and risk events have now extended beyond the working week. As a result, the current trading session doesn't reflect market participants' increasing need to access FX liquidity 24/7 in order to exchange risk – this puts significant pressure on the FX market to move with the times and become fully accessible seven days a week."

## Spotware releases cTrader Mobile 3.12

Spotware, a leading Fintech and trading solutions provider, has announced the release of its cTrader Mobile 3.12 version.



The update comes equipped with the much-requested Dark Theme on iOS, which reduces strain on the eyes and adds style to the platform, as well as a "Sign in with Apple" option. Traders can now log in to the cTrader platform with their Apple ID, or use it to sign up. The version also comprises iOS SDK 13 features' support, and a series of bug fixes and performance improvements on both – iOS and Android devices.

## Devexperts launches DXtrade

Devexperts, a company with 18 years of experience in custom platform development, recently announced the launch of its new off-the-shelf trading platform for retail brokerages. e-Forex spoke to Conor O'Driscoll for more details.



Conor O'Driscoll

**Why is now such a good time to launch an all-new trading platform?**

Aside from the recent surge in volatility and brokerage volumes, I think we're entering a very interesting period for the online trading industry. You can think of it as a tipping point of sorts, several factors are coming together to make this segment ready for some new blood where previously it may not have been. The established names don't command the same brand recognition among younger traders, who are steadily growing in number and come with different demands than previous generations of traders. This

is leading brokers to be more willing to explore other avenues where in the past they would have just opted for the usual suspects. It's also an opportunity for brokers to revamp their offerings and stand out from the pack, while also seeing how the technology has progressed and exploring all the new things they can now do on the back-end as well.

**Many companies have found it difficult to compete with the existing platform providers in this industry. What makes Devexperts different?**

Our team has a great deal of experience in this space. Not only do we have a thorough knowledge of the platforms already on the market, many of our developers have worked on extending their functionality and pushing them to their limits. Whether it be on the development of bridges, liquidity aggregators or connectivity solutions, our guys know this market from the ground up. Over the years we have also amassed a wealth

of experience in creating custom platforms for many institutions. This has provided us with unique insights into what different businesses require as well as a lot of experience in troubleshooting problems that come up in different contexts. I think now is a perfect time for us to put all this knowledge to work with our new software as a service platform solution.

**What are the benefits of DXtrade?**

To begin with, it's web-based, offering a seamless and professional experience across all devices and operating systems. It's cloud-based, meaning that brokers can leave the management, support and maintenance of the platform in the capable hands of our team. One of the biggest advantages of our platform is its risk management functionality. The capability provided for risk management and dealing departments, far exceeds what is currently offered by other retail trading platforms. This is further complimented by highly configurable back office settings, which allow brokers to optimise their platform setup. DXtrade is also massively customisable in terms of UI, allowing brokers to configure layouts and watchlists that they regard as ideal for their traders. The interface itself is based on widgets, which allows for the data to be presented in all sorts of interesting and intuitive ways. It also allows us to provide a steady stream of updates to the functionality and the way the platform looks and feels. This means that the platform will continue to change and evolve. We already have a pipeline of exciting new features that we're planning to roll out throughout the rest of the year.



The new DXtrade platform



# smartTrade Technologies - working hard to assist FX trading firms through COVID-19 crisis

Earlier this year smartTrade Technologies, a pioneer in multi-asset electronic trading solutions, received an investment from Hg, the largest European investor in software and services. That vote of confidence is helping smartTrade to accelerate its growth as a global leader in multi-asset electronic trading solutions. We talked to David Vincent, CEO of the firm, to see how the business has been performing and in what ways the strength and deep domain experience of smartTrade is enabling it to help its buy-side and sell-side clients navigate the challenges of the recent market disruption.



David Vincent

**The first six months of 2020 has proved challenging for many companies across numerous industries. How have smartTrade's business and systems been performing during this difficult period?**

This crisis has been a test for every part in the financial system. For those with the necessary infrastructure in place, they were able to withstand the major change in market behaviour and dynamics.

Throughout this period we have been pleased with the robustness of our systems, which allowed our clients to trade through even the most volatile days of the crisis without any issues. The smartTrade solutions performed extremely well during times of stress, ensuring orders were filled and trades completed during critically important moments.

One of the primary reasons for our success was smartTrade's trading engine, which allows for quick responses to changing market conditions, such as the trading environment during the spring. To put this in context, smartTrade saw overall volumes in March 75 percent above those we saw in February. Some clients saw volumes increase fourfold from their previous level. Through all of this, smartTrade's solutions remained stable and available.

**COVID-19 has led to significantly increased volatility across the markets. In what ways has this crisis been testing the resilience of FX trading workflows and trading infrastructures?**

After a long period of relative calm, the foreign exchange market, along with the broader capital markets, swung into a period of historically high trading volumes.

The firms that fared the best were those who already had the infrastructure for remote, location-agnostic work rather than those dependent on physical, location-specific infrastructure. These prepared companies modelled extensive market disruptions through stress testing before the crisis. This was vital during days of extreme market swings, such as the so-called Black Thursday of 12 March. Those companies who succeeded – and we are pleased to count ourselves and our clients among these successes – could handle both high volumes and maintain stable platforms during the time of increased pressure.

**How has smartTrade's robust technology been able to assist your clients to mitigate much of the impact of the recent disruption?**

The crisis has demonstrated the flexibility of our model and how it can provide clients with certainty in times of severe market disruption. Traditional FX execution contracts feature volume-based pricing, where clients pay on a per-trade model. This means spiralling costs in active markets, like the ones we saw this spring, as traders rush to respond to shifting market conditions. smartTrade uses a flat fee model, which means costs are not dependent on volume. In times of heightened volatility, this can translate into significant savings – and prevent unsustainable spikes in trading costs.

**Could black swan events like this encourage many FX trading firms to reassess their strategic investments in future technologies and the firms they choose to provide them?**

Absolutely. Every black swan event broadens the definition of what is possible. Traders referred to the

disruption around the Global Financial Crisis as a "once in a generation" disruption, but now there's been an even sharper correction just over a decade later. Volatility and change may be the new reality for markets, and the industry is recognizing that in order to survive they need to prepare for the unexpected.

Every one of our customers has a different way of trading, and that's going to continue. What we provide firms is the ability to create a trading solution that is scalable and flexible according to their needs both today and tomorrow.

**Once this crisis is behind us where are you expecting to see increased demand for smartTrade's products and services?**

As we pass through the intensive phase of the crisis, we expect that markets will enter a "new normal," with increased volatility and enhanced pressure on fees. We expect that firms who were caught flat-footed during the early stages of the crisis will move rapidly to correct any exposed weak areas in their infrastructure. This may include new partner or vendor relationships to gain instant credibility and experience in a particular area.

The crisis has meant that people have had to remain operational, in significantly more volatile markets, with disruption hitting their ability to execute. Firms are realising that smarter, faster and more flexible technology is now essential to keep them ahead of the competition, with or without a major global crisis.

Firms need tools that automate trades in ways that are highly configurable and flexible and fit inside their existing workflows. The companies that adopt these kinds of solutions are the ones that will succeed.





Guy Hopkins



Jian Chen

# Looking for Best Execution? Here is what might influence your FX trading strategy

By Guy Hopkins, Founding Director and  
Jian Chen, Head of Data Science, FairXchange



## Looking for Best Execution? Here is what might influence your FX trading strategy

Rules around best execution have been familiar to EU investment firms since 2007 with the implementation of the first MiFID directive, and have come into much sharper focus with the advent of MiFID II. Simply defined it means achieving the best possible result for customers when executing their orders, either via venues or OTC. The formal reporting requirements are in fact quite modest; however, the onus is very much on firms to demonstrate that they have a process in place to ensure the best possible result. Costs are clearly a key component of this, but best execution extends a long way beyond trading on the best price at any given time - it informs the entirety of the execution process. If we have a large order to execute, how can we execute it without incurring unnecessary market impact, which may negatively affect us during the life of the order? Conversely, how do we avoid taking unnecessary market risk by taking too long to execute?

### CHOICES

A useful starting point is to consider the various strategies that could potentially be used to execute a

given trade; the final choice of that strategy is the culmination of several decisions at varying levels within the organisation; all of which should be based on rigorous analysis and understanding of data.

Decisions first need to be made by the firm about what execution strategies are approved for usage by the trading desk. Naturally there are certain instruments which can only be traded in certain ways (onshore/restricted pairs, frontier markets and so on) so for the purposes of this discussion we'll focus on the more liquid currency pairs.

One approach adopted by some firms is to automate the execution of orders below a certain size, so they never require any human intervention in the first place. These are commonly executed direct over an API with a panel of liquidity providers, usually on a best price basis. Several decisions need to be made here: what should the size cut-off be for each pair? Can/should orders be netted together before execution, and how long should the netting period be prior to execution? Which liquidity providers

should be chosen for the panel? Should that panel be rotated and if so, what are the criteria for deciding who should leave and who should join? Clearly these are decisions that must be justifiable and therefore require extensive ongoing data analysis to answer. Traders must also have these metrics at their fingertips, as they invariably represent the firm when meeting counterparties to discuss performance.

Inherent within this model is a tacit acceptance that all qualifying trades will incur a cost, specifically due to crossing the spread to trade on prices from liquidity providers (i.e. worse than the market mid). It should be possible to quantify this estimated cost to the business over a year - assuming one has a reasonable assessment of available spreads and the likely volumes to be executed. Set against this crystallised cost are the operational efficiencies to be gained by releasing the human traders from handling large numbers of small tickets and letting them focus on higher value trades. These are inherently more qualitative, but it should still be possible to make a reasonable estimate of the time savings both to the desk and the middle and back office functions through a more streamlined approach.

With the firm having automated the small tickets, our hypothetical desk trader is now left with a smaller number of larger orders for which she takes responsibility; for any given order she must now choose an execution strategy from a number that are available to her, either trading in full at once ("risk transfer") via electronic or voice channels, or working the order over time. Many firms have adopted execution algos to transact their larger orders and there are a huge number of strategies available from a wide variety of firms. How does one go about



Some firms automate the execution of orders below a certain size, so they never require any human intervention in the first place



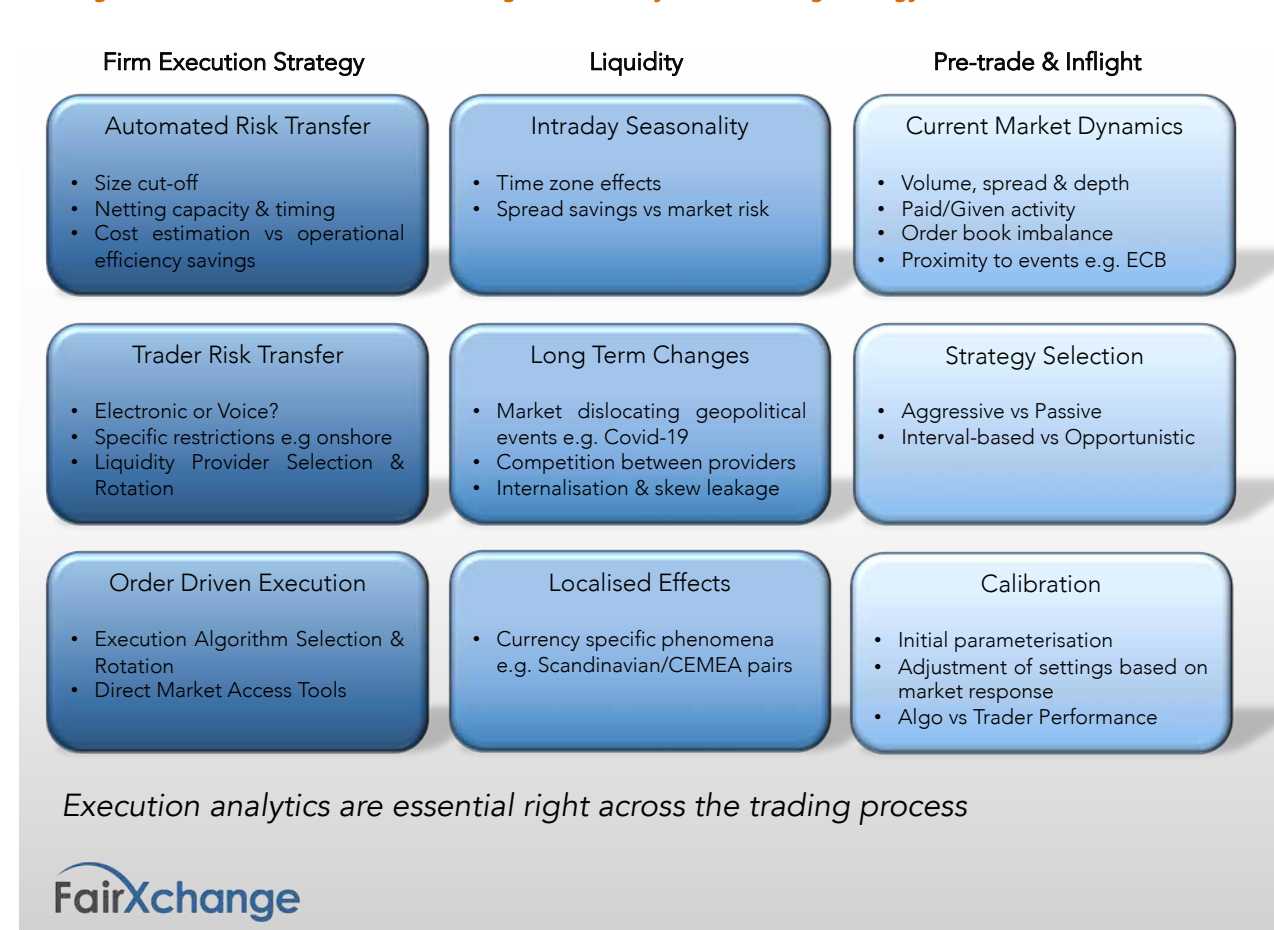
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## Looking for Best Execution? Here is what might influence your FX trading strategy



selecting the right ones to participate in a panel? Again, there needs to be an ongoing data-driven analytical process that assesses the available offerings, both those in the existing panel and “challengers” who are competing to be included in the next rotation. This is not a simple task, not least because firms are to an extent reliant on data provided to them by the algo providers themselves – if they have never used a bank’s algo, how can they decide if it is worth using? This of course is a key factor in the emergence of independent analytics firms, who aim to bring clarity to that decision-making process, standardising data and removing any perception of conflicts of interest. The aim here is to introduce an analytical framework to inform the selection of candidate providers and strategies, both initially and on an ongoing basis. Newer entrants need to be reviewed, while one must be open to the possibility that old favourites may fail to keep

up with the pace of innovation and performance may therefore suffer. Keeping on top of this shifting landscape should be a key component of any best execution process.

**LIQUIDITY MANAGEMENT**

Regardless of the specifics of any given strategy, all of them - from immediate risk transfer to algos - must ultimately interact with sources of liquidity, and “liquidity management” is now a service in its own right. The largest providers spend a huge amount of time curating their liquidity pools and this has become a key part of their sales pitch to their customers. This goes much further than simply saying “we are a large firm so we have a large client base for you to match with” – the most sophisticated firms will conduct rigorous testing on each source to ensure that the liquidity is both sustainable and reliable. One area that is currently getting a lot of focus is “skew leakage”. When

market makers take on a position from a client and attempt to get out of that position through the rest of their franchise, they will show an improved price (or “skew”) on the side that reduces their risk. The inherent danger however is that the skew they are showing to their clients gets propagated out into the wider market, where it gets incorporated into other participants’ pricing models and steadily pushes the market away, causing the originating market maker to lose money. As a result, market makers must be very selective around to whom they show their skews. Done well, it should ultimately result in lower rates of information leakage (or signalling risk) and market impact, and clients can verify this to a degree by conducting their rigorous assessments of their providers using execution analysis tools. Similarly clients may seek to identify which of their providers are able to demonstrably internalise their risk and which may be



Execution analytics now form an integral part of the trading process

immediately covering their positions in the wider market (and thus causing additional market impact.)

**TRADE CHARACTERISTICS**

Deciding which strategy to employ is also heavily influenced by the specific characteristics of the trade in question. Orders may be generated during the Asia time zone when liquidity is thinner; our trader must then weigh up the potential spread savings of waiting until the European trading day begins and liquidity starts to increase, against the risk that the market may drift away in the intervening period. In the most active pairs it may be possible to source sufficient liquidity at most if not all times of day, but others show very localised liquidity effects – Scandinavian pairs being a prime example.

This presents issues particularly for those clients that prefer spread-earning “passive” strategies, using algorithms that post interest in venues. The potential savings compared with crossing the spread and trading on someone else’s bid or offer can be attractive, but of course if there is no activity in the pair in question at that time of day you could be waiting (and exposed to market risk) for a long time. Of course, liquidity also changes over time – the recent Covid-19 pandemic has understandably caused profound changes in the liquidity

landscape, and strategies that may have been effective beforehand may have to be rethought. Execution analytics help give traders a sense of the seasonality of liquidity, both on an intraday and a historical basis, allowing them to better understand changes in activity (i.e. volume), pricing competitiveness and depth. This provides an all-important context within which to evaluate the effectiveness of each of the potential execution strategies they may employ.

**TIME TO ACT**

As we can see, there are many separate decisions – long term and short term, organisational and individual - that ultimately contribute to the specific choice of strategy for a given order, and all of these should be data-driven. Now we have arrived at the point where it is time for the trader to act; the appropriate strategy has been selected from the list of approved options for the trade in question. Let’s assume that our trader has chosen an algo; they are now faced with a new set of challenges, specifically what settings should they use? How fast do they expect the algo to trade the order, either by setting a duration or choosing an urgency level? Are there market levels at which they want to suspend participation, or aggressively consume any available liquidity? This is where we start to see the merging of human and

automated decision making, which makes measurement significantly more challenging. The algo behaves according to its underlying programming, and may even respond to market dynamics in-flight, but of course is only able to operate within the constraints that the human executing the order imposes upon it. To have any chance of implementing a repeatable process for measuring the effectiveness of both the algos chosen to participate in the panel and the traders using them, it is essential to distinguish between the actions of each. User-discretionary decisions – changing execution speed, imposing limit prices, pausing execution and so on – are completely out of the control of the algo, and human traders should be able to point to the value they have added to the execution process by using these controls.

Our trader also needs extensive insight into current liquidity conditions, both to be able to set the initial parameters of the algo and then to adjust them in-flight as they observe how the algo is behaving and how the market is potentially responding to its activity. They also need to be aware of imminent news events which may cause a spike in volatility. This of course has led to the recent emergence of pre- and in-trade analysis tools that assist the decision-making process in real-time.

So, as we have seen, execution analytics now form an integral part of the trading process; informing the long-term strategic perspective for the organisation, counterparty and strategy selection, liquidity analysis and timing, right through to the individual decisions made by a trader at the point of trade. As technology becomes ever more sophisticated this interaction between the human and machine worlds seems only set to increase.



# Market Impact and Decay Around the WMR Fix

By Pete Eggleston, Co-Founder & Director and Dean Markwick, ML Quantitative Researcher at BestX Ltd.



Pete Eggleston



Dean Markwick

Market impact can mean many different things but in essence it is an estimate of the movement in the market price during and following a buy or sell trade. The act of buying pushes the price up and the act of selling causes the price to fall. How much the price moves with each trade is known as market impact and is a key factor to any execution strategy.

Measuring the market impact in FX is a difficult task as there is no central order book, tape or reporting authority, therefore we must be creative and one way to estimate this is to analyse the WMR fixing window to estimate both the amount of market impact a currency displays and how the market impact reverts after a trade has finished. The WMR fixing window provides an experiment to measure such a phenomena. The majority of trading participants in this

window will be attempting to average in over the window to achieve as close to the fixing price as possible, therefore we can view the behaviour over the window as, for example, a single TWAP (time-weighted average price) trade. Each second of execution is displaying market impact and everyone executes their own orders pushing the price away from its origin at the start of the window.

Once the window closes the impact decays, but not fully as there is a new price. In this article will be showing how the market impact looks for multiple currencies paying particular attention to the last quarter.

## CALCULATING MARKET IMPACT

To characterise the market impact over the WMR window we use the following methodology:

1. Snap the price at 15:57:30 - the start of the fixing window.
2. Calculate the second by second return from the snapped price up until 16:05:30.
3. Normalise the returns based on the price change from the start of the fix to the end of the fix (16:02:30).

- If the price is higher at the end of the fix, this was a positive day and the majority of people were buying.
- If the price is lower at the end of the fix, this was a negative day then the majority of people were selling.

When we aggregate over multiple days we don't want positive days cancelling out with the negative days, hence why we must normalise the return based on whether the market was buying or selling on that day. We can then average the market impact on each day over the different quarter to judge how it has evolved.

There are two properties that we will observe over the window. Firstly, the price will be driven from the starting price due to the large amount of trading activity over the window, there will be an imbalance of buyers and sellers and the price will reflect this change. Secondly, the price will decay from its peak as the window finishes, this is because the amount of buyers and sellers returns to normal and finds a new equilibrium.

Here in Figure 1 we can see an actual example of this market impact.

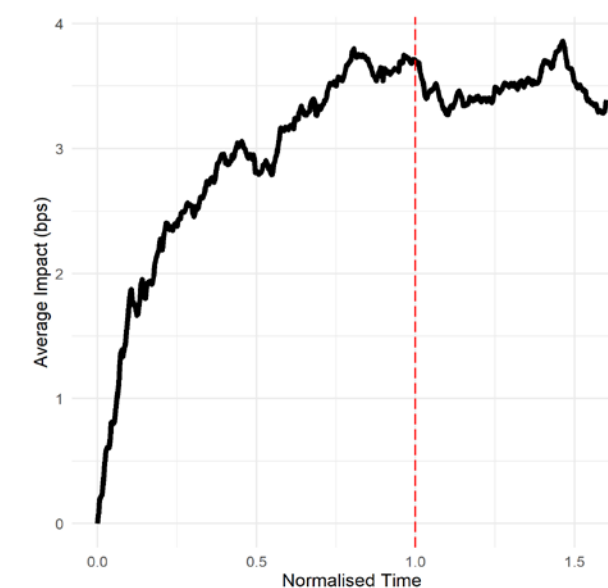


Fig 1 A real example of market impact of GBPUSD in Q2 2019

The increase from  $t=0$  to  $t=1$  shows the price of GBPUSD being driven by the flow of the fixing window. The price is driven on average 3.5 bps away from the starting price. It then reverts by 0.25 bps, leaving a new equilibrium price that is 3.25 bps away from where the price was at the start of the window. This characteristic shape across the fixing window highlights both market impact and the subsequent decay of the market impact. We now proceed to calculate the market impact across the fixing window for a number of different currencies and compare how it has changed across the quarters from 2019 to 2020. We then calculate the behaviour over the last day of the quarter and the last day of the month.

## AUDUSD

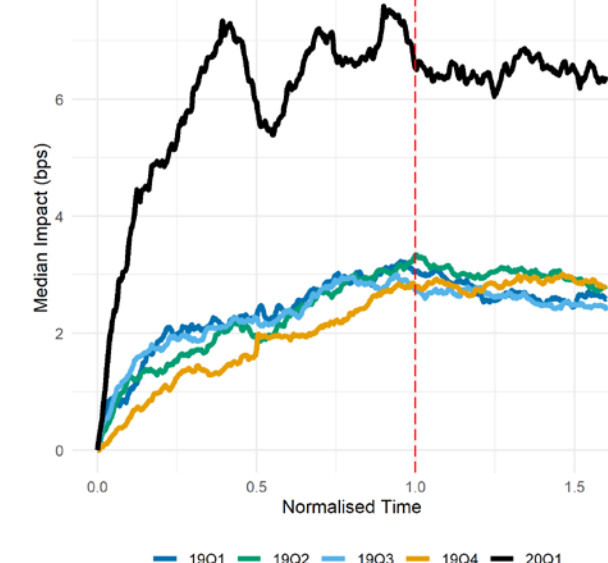


Fig 2a AUDUSD market impact across different quarters

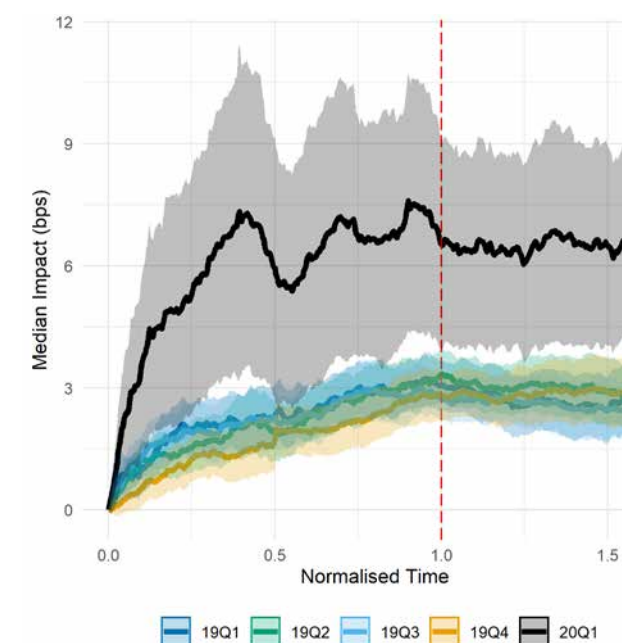


Fig 2b Same graph but with the uncertainty of the measurements

There has been recent discussion in the trade press around the behaviour of AUDUSD over the fixing window. This type of analysis can help shed some light on what has happened in the last quarter compared to the previous quarters.

In Fig 2a we can see that AUDUSD has had a departure from normal behaviour, with an average of 6 bps of impact in Q1 of 2020 compared to the usual 3bps as seen in the previous quarters. However Fig 2b indicates how incredibly noisy this data is and how any conclusion drawn must be taken with the uncertainty of the observations under consideration.

## G10

For G10 currencies Figure 3 shows that most have seen a departure from the normal with greater market impact across the board.

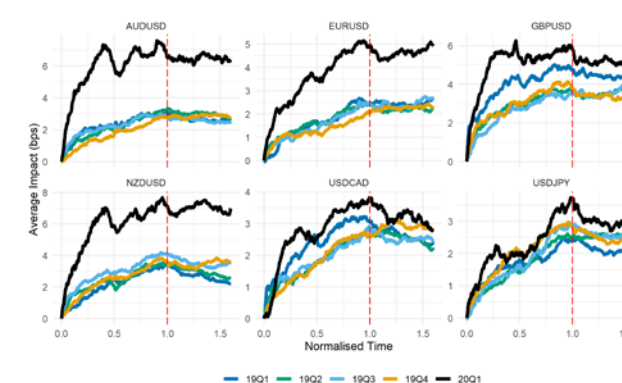


Fig 3 G10 currencies

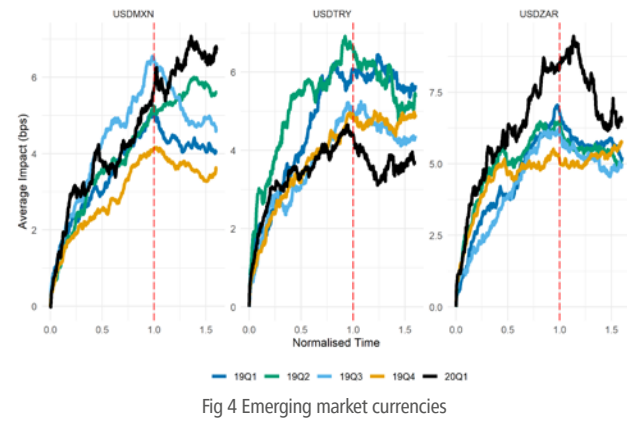
## EMERGING MARKETS

A similar pattern for EM currencies with an exception being USDTRY. So whilst the market impact is smaller Figure 4 shows 1bps of reversion in USDTRY last quarter.





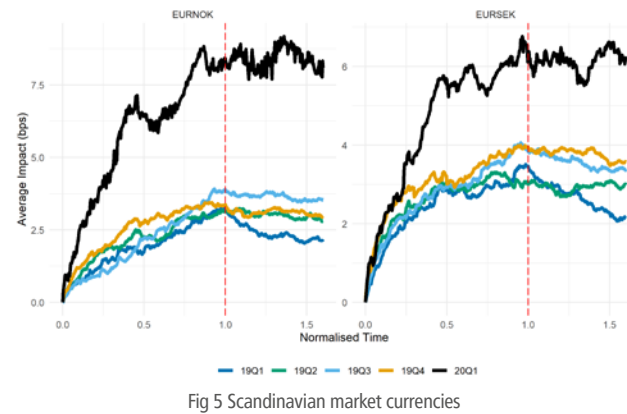
**Market Impact and Decay Around the WMR Fix**



The behaviour of EM currencies can be more difficult to estimate due to the overall lower use of the Fix compared to G10 currencies.

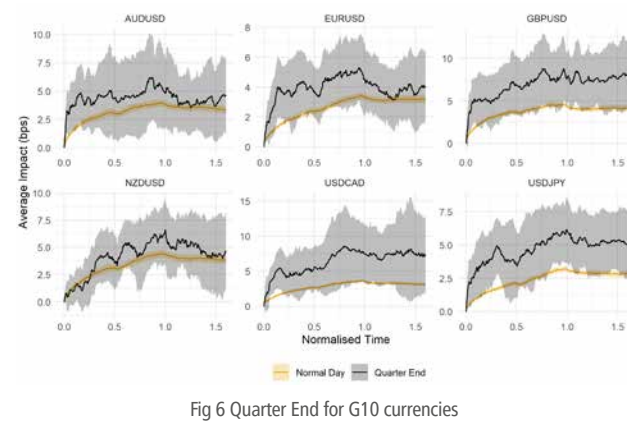
**SCANDINAVIAN MARKETS**

Figure 5 shows that the Scandinavian currencies have seen a large increase in market impact.



**QUARTER END**

We can also extend our analysis to assess the behaviour on quarter end dates. Here we look at all the quarter ends from 2017 to 2020 and compare them to normal days.



However with only 4 quarters in a year, this makes it tricky to differentiate between signal and noise.

**MONTH END**

We can include all month end dates.

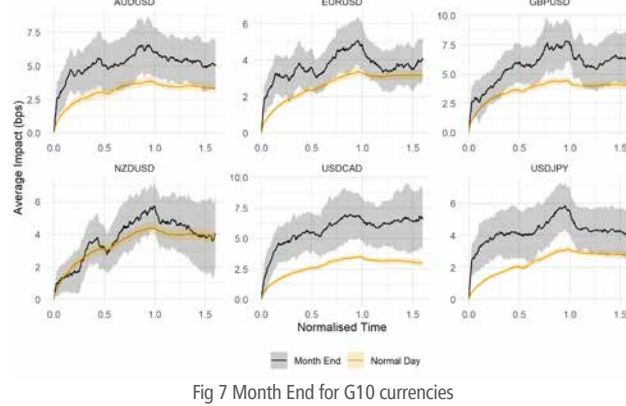
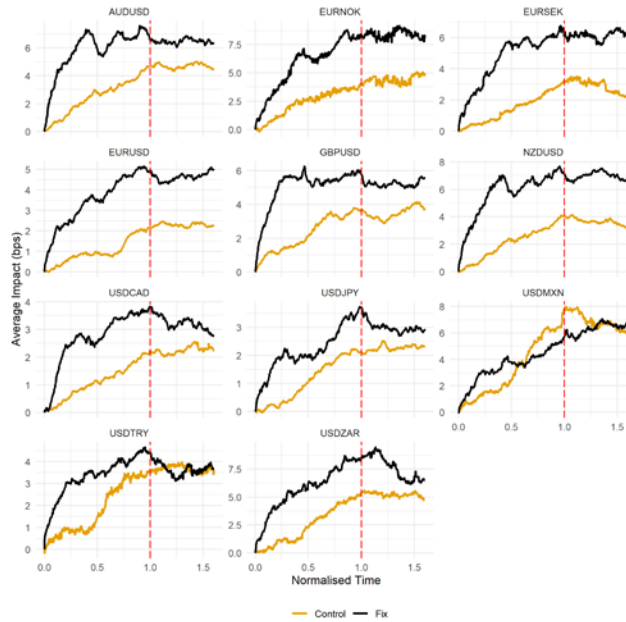


Figure 7 is less noisy than Fig 6 and it appears that there is a constant shift upwards in the market impact compared to a normal day.

This highlights the potential cost of executing on month end over the fix, the price is more likely to be driven away from the starting fix price.

**CONTROL**

To show that this effect is real we repeat the procedure but for a window that is 5 hours earlier (11 am) in Q1 2020.



For all currencies (except USDMXN) Figure 8 shows that the market impact is larger in the fixing window and there is a more noticeable decay after the window closes.

This shows the effect of all participants executing in the fixing window compared to a random window where it

is unlikely that everyone is executing and the volumes being executed will be orders of magnitude smaller. The difference of USDMXN can be attributed to the lower usage of the fix as mentioned previously.

When we focus on AUDUSD in the last two quarters we find a similar pattern.

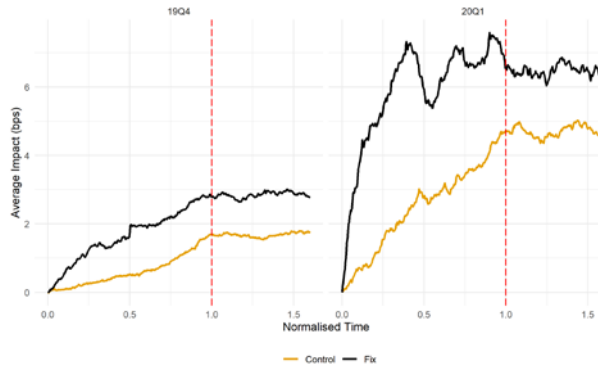


Fig 9 Comparing the fixing window to an 11am window for AUDUSD in the last two quarters

Figure 9 shows that the overall impact in both the control window and the fix window is larger in 2020 Q1 compared to 2019 Q4 which can be attributed to increased volatility. However, the fixing window always has a larger market impact that decays which is dominated by the market impact of trades targeting the fix.

**CONCLUSION**

Overall we have shown how market impact can be calculated and visualised. By assessing it over a number of different currencies we can see that it varies from quarter to quarter and there has been a large increase in market impact over the last quarter. Furthermore, there is a larger market impact at both quarter end and month end. This is as expected given the increase in volatility, and volume of rebalancing trades due to large movements in indices, and doesn't necessarily indicate any nefarious behaviour around the Fix. Market impact alone is an inherently difficult problem as the amount of noise present in the observations can easily wash out any apparent signal in the data. In the Figures where the error in observation is highlighted (Figs 2b, 6 and 7) the large scale of uncertainty must be taken into account before drawing any kind sweeping conclusion. There is evidence to support the theory that there is more permanent market impact (i.e. there is a smaller decay in the price) created at month ends compared to 'normal' days. This evidence would therefore suggest that, where possible due to mandate or operational constraints, it may be more optimal to rebalance on days other than month-ends.

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the growing demand by corporates and asset managers for algorithmic FX trading toolsets to meet best execution requirements and reduce the market impact of their currency dealing activities

the use of automated trading solutions and execution algos by specialist currency management practitioners to facilitate their passive and active overlay mandates

the use of execution algorithms by hedge funds operating in the currency, futures and crypto markets to facilitate their quantitative investment strategies and managed account programs



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# Using the Unit Cost of Volatility to measure your FX costs

By Xavier Porterfield, Head of Research at New Change FX (NCFX)



One of the challenges market participants face when analysing their FX transaction costs is how to compare results across different currency pairs and volatility regimes. A given spread for 1 million EURUSD might be considered very tight under certain conditions, but unjustifiably high in other circumstances. At present analysis of transaction costs is not dynamic across differing market conditions, so Broker A might be circumstantially better than Broker B, but when those circumstances

are considered, the reverse might be true. This problem of comparative measurement is particularly acute when assessing algorithmic execution across different providers but is relevant to any form of execution.

## A NEW APPROACH FROM NCFX

NCFX have announced the introduction of a new approach that allows fair comparison of liquidity providers in all market conditions. Their solution is to normalise execution costs for volatility conditions

$$\text{Transaction Costs} \approx \sigma_{\text{Inventory}} + \frac{\text{Bid-ASK}}{2}$$

Where inventory risk is proportional to time

$$\sigma_{\text{Inventory}} = \sigma_{\text{Time}} \sqrt{\frac{\text{Time to clear in units}}{\text{Number of units in time}}}$$

and show execution costs in relation to volatility itself. The rationale for this approach derives from the work of Grinold and Kahn on market impact models. Their work discusses the relationship between volume and volatility by demonstrating the link between inventory risk and time. This inventory risk approach to

market impact proposes that it should cost approximately one day's volatility to trade one day's volume, plus a bid ask spread.

It follows that the volatility cost of a trade must be the amount of the order multiplied by the per period volatility such that an order that is completed in one second incurs a volatility cost equal to the inventory risk of holding that trade for one second.

By scaling volatility to the time needed to complete a trade we can then assign a dollar value to the cost of volatility. 1 million dollars' worth of euros transacted over one second, where the second volatility in EURUSD is .00005 should cost USD50. Transaction costs above USD50 indicate that the ratio of transaction costs to volatility is greater than one. Volatility is dynamic. This means the cost to trade changes throughout the day, and from month to month. It follows that the cost of volatility also changes. But if transaction costs are scaled to the implicit riskiness of a trade, the spread away from mid should also scale, and the ratio of transaction costs to the USD cost of volatility should provide insight into the relative costliness of a trade. In fact, because volatility is an external cost factor (market participants can only exercise discretion on the timing and size of orders, not volatility itself) it makes sense to normalise transactions cost by volatility because this is a cost that everybody pays.

Spread costs can be broken down into two components: an information cost



Comparative measurement is particularly acute when assessing algorithmic execution across different providers

and a liquidity cost. Information cost is permanent impact cost. It measures how much prices change over the transaction period. Liquidity costs are realised in the instantaneous skew away from mid at the moment of execution.

Consider the following comparison between two trades, A and B in fig 1. They were both made for the same amount, but on different days. We show the effective spread and the USD cost of liquidity that corresponds to each trade.



Fig 1

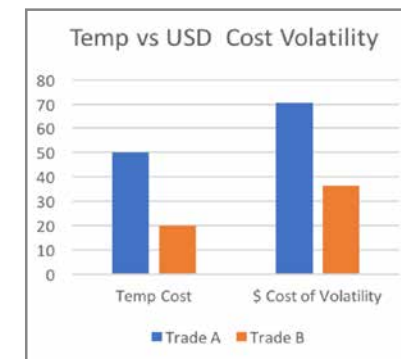


Fig 2

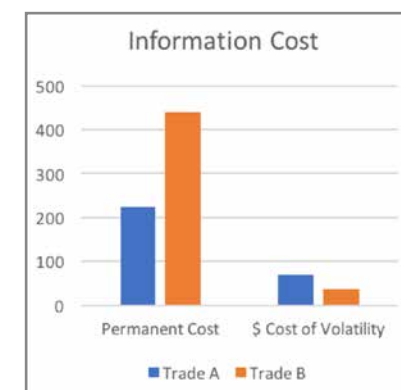


Fig 3

We express these transaction costs as units of volatility: we divide effective spread in USD by the USD value of

volatility over the trade interval in which the trade was completed.

Trade B exhibits a particularly high unit cost of volatility. Not only was it more expensive in absolute terms (effective spread) but volatility was lower when Trade B was executed. The increased cost of execution cannot be explained by market conditions. We gain further insight by decomposing effective spread into permanent and temporary costs, to identify the information and the liquidity unit cost of trading.

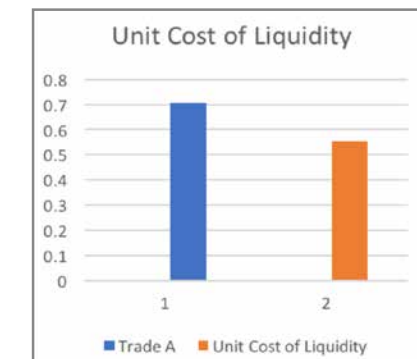
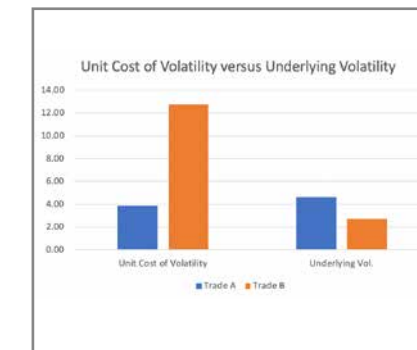


Fig 2



Fig 3

In Fig 2, looking at the unit cost of liquidity, Trade B cost a relatively small spread, (.55 versus .7) but creates high

market impact as shown when we examine the unit costs of information.

By measuring these costs as units of volatility market participants can better understand the cost implications of market movement and bid offer spread. Transaction costs can be scaled according to the riskiness of their trades. Given that riskiness scales with time, we can understand costs as units of time, assigning a dollar value to a discrete moment of time.

We arrive at unit costs by sampling the underlying NCFX benchmark rates. In the days when pretty much all wholesale FX activity was concentrated in one of two electronic platforms, EBS or Reuters, it made sense to estimate the clearing price from single source data.

Liquidity is now fragmented over a number of different platforms, which means there will be instances when the transient sampling error of mid-rates across platforms is high. When it comes to measuring idiosyncratic costs, those transient sampling errors can all too often hide a significant portion of costs. By measuring costs against the NCFX Benchmark rates this sampling error problem disappears.

## CONCLUSION

The implications for dealers are clear. Measuring unit costs of volatility enables dealers to grasp the actual cost of employing a specific liquidity provider. This is preferable to looking at circumstantial measures such as comparing costs to peers, which compare idiosyncratic costs.

By their very nature, idiosyncratic costs do not lend themselves to meaningful measurement. Unit costs of volatility allow us to decompose transaction costs into relativistic terms- how expensive or cheap a trade is relative to the clearing cost of the trade.





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# Singapore

## Where electronic FX is moving towards critical mass



Asia Pacific's principal FX trading centre is increasingly demonstrating what happens when market forces, technology, regulatory support, regional political events and positive sentiment all align. Richard Willsher investigates.

REGIONAL E-FX PERSPECTIVE





Country	2013	2016	2019
UK	2726	2406	3576
USA	1263	1272	1370
Singapore	383	517	640
Hong Kong SAR	275	437	632
Japan	374	399	376

Turnover of OTC foreign exchange instruments, by country in USD billion  
 Courtesy of: "Bank for International Settlements' Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets in 2019." Reported on a net-gross basis, daily averages, in billions of US dollars

The city-state of Singapore with just five and half million people punches well above its weight in FX. In terms of average daily turnover, the Bank for International Settlements' 2019 Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets reports average daily trading volume of USD640 billion, placing it third after London and New York. It outdistances other Asia Pacific centres including Tokyo, Hong Kong and Sydney in most, though not all, types of transaction including spot, outright forwards, FX swaps currency swaps and FX options across a broad range of G10 and emerging markets currencies. Moreover, as successive BIS surveys have shown, Singapore continues to grow its turnover period after period in line with the general global FX turnover growth trend. It now accounts for almost eight per cent of global OTC turnover and roughly a third of that of the APAC region.

Singapore has positioned itself at the convergence of several significant eFX growth drivers. "Singapore has around USD2.5 trillion of assets under management (AUM) with 75% sourced from outside Singapore," explains Jay Hurley, Regional Head of eFX, APAC at State Street Global Markets, one of the world's largest custodians. "With AUM in the APAC region expected to grow to 30

trillion USD by 2025, State Street is positioning itself to meet the increased demands for its transaction services."

On the corporate side, Singapore sits at the heart of Asia, where increasing international trade is speeding up demand for more sophisticated FX instruments. Singapore is home to a significant number of regional corporate treasuries. Many of these have already adopted electronic FX trading and are increasingly pursuing best execution technology that e-trading can enable.

At the same time, as BNP Paribas has pointed out in a recent announcement about its expanded Singapore operation, in the highly dynamic FX market, access to data and artificial intelligence (AI) tools can mean having an edge in trading strategy. The banks new FX pricing and trading engine will offer e-FX trading of 50 currencies in spot, forward, swaps, non-deliverable forwards (NDFs) and options, as well as commodities e-trading for both precious and base metals.

**BANKING ON TECHNOLOGY**

This highlights twin trends in Singapore's growth, firstly the adoption of cutting edge technology and secondly its success in attracting new market activity through encouraging international players to increase their e-FX presence there. Both of these have been promoted by

the Monetary Authority of Singapore (MAS), Singapore's central bank and financial regulatory authority. So far nine institutions have committed to the MAS initiative: BNY Mellon, BNP Paribas, Citi, Deutsche Bank, J.P. Morgan, Jump Trading, Standard Chartered, UBS and XTX Markets.

At the launch of its pricing and trading engine in January 2020, BNP Paribas said, "Singapore is a key trading centre for us in Asia Pacific, where we are committed to investing for growth. In Southeast Asia, we have seen our e-FX trading volumes grow by double-digits year-on-year. With the new e-FX Hub in Singapore, our clients will benefit from better access to liquidity, more efficient price discovery and timelier trade execution. Working with MAS on this initiative underscores Singapore's focus on improving market efficiency and the sector's growth potential in the region."

Other major banks have made a similar commitment. Standard Chartered Bank's Michele Wee, Head of Financial Markets, Singapore, Brunei and Australia, says that it is an early entrant to partake in this development with the go-live of its Singapore co-location capability in December 2019. "Standard Chartered executed its first trade in January 2020," she continues, "This investment came soon after the Singapore franchise became the first foreign bank to consolidate all our businesses into a locally-incorporated subsidiary. As one of the largest banking organisations and a major FX trader in the region, we are committed to continue investing in Singapore."

At the beginning of April, J.P. Morgan said that it had successfully completed its first trades, following successful testing of a new trading and pricing engine in Singapore. "With market volumes and volatility at record levels, we're pleased to provide clients



Singapore sits at the heart of Asia, where increasing international trade is speeding up demand for more sophisticated FX instruments

**"With market volumes and volatility at record levels, we're pleased to provide clients with additional infrastructure to support their global price discovery and liquidity needs."**



Sudhanshu Sanadhya

with additional infrastructure to support their global price discovery and liquidity needs at such a critical juncture," commented Sudhanshu Sanadhya, the bank's head of Asia currencies and emerging markets trading. "Clients benefit from the reduced latency in trade execution and greater price transparency via the platform. It allows clients to conduct

forwards and swaps. We've spent the past four years fully integrating and accentuating our global FX capabilities, and this is just the next step in the bank's commitment to the region, specifically to Singapore as the hub of our Asia G10 FX trading. With the benefit of local support, we can accelerate our offering of additive liquidity to clients."

FX transactions effectively according to their geographical location and is J.P. Morgan's fourth electronic FX trading infrastructure globally, adding to its existing platforms in New York, London and Tokyo. The additional infrastructure also enables us to handle larger volumes and provides us with greater interoperability."

On 3rd June BNY Mellon, joined the lengthening list of firms to announce plans to build a high-performance FX pricing and trading engine in partnership with MAS. "The bank will establish new low-latency electronic FX infrastructure in Singapore," they stated, "helping to improve execution quality and price discovery for clients, initially in spot and subsequently in deliverable and non-deliverable



Jonathan Woodward

**"Data rates and trading rates tripled during February and March but our systems stood up well."**



Individual banks are not the only organisations to beat a renewed path to Singapore's door. Multi-bank platform Refinitiv has also announced a significant development. "We've set up a new legal entity in Singapore for all our non-MiFID [Markets in Financial Instruments Directive – European regulation] business, basically," Jonathan Woodward Refinitiv's Head of Asia Pacific - Transactions Sales. "This means we are now a MAS regulated market operator and can do more, such as switch on our metals derivatives business."

While maintaining its APAC technology base in Tokyo, Refinitiv is increasingly using its Singapore base as a springboard into other Southeast Asian (ASEAN) countries. It is working closely with authorities in Malaysia, Indonesia, India and Vietnam among others to bring its electronic platform into wider use. This not only expands its business but also aids central banks and regulatory authorities to supervise and control their currencies through the use of its technology and data transparency.



Jason Wang

**"As the world goes more digital, accelerated by the [Corona] virus, Singapore will host more FX related IT infrastructure, servers and services."**

**COVID-19**

E-trading technology has played a crucial market role during the current pandemic. Although Singapore has had relatively few cases, it was quick to react and move to home trading. In a widely-wired jurisdiction, this was done quite smoothly as Jason Wang COO at Spark Systems, a leading regional FX trading technology provider, explains. "We saw in March how FX volume numbers went through the roof but it's safe to assume that FX trading activity hasn't reduced or been affected by the COVID-19 situation. People adapt, and quite quickly too. Banks here in Singapore have their sales and trading teams split up between the office and home, and life / work goes on. This is also aided by the fact that many active FX traders here are already trading using online platforms."

As Ravi Menon, Managing Director of MAS, observed in Financial Markets Association ACI Singapore industry event on 29 May 2020, "FX and treasury has been one of the better performing segments in the financial industry." He added that "Singapore's FX market has been resilient (as) it was able to manage the volatility from the global impact of COVID-19."

This view is endorsed by Refinitiv's Jonathan Woodward though he concedes that Covid had some major market impacts. "Data rates and trading rates tripled during February and March. But the nice thing was all our systems stood up well and we didn't have any issues with them. We know that some others struggled to cope with the throughput and disappeared for a while, but that wasn't the case with us."

A lot of the banks reduced their internalisation rates because they were in a risk-off environment. So, that meant that they were just looking at passing through client flow straight into the primary markets. Consequently, primary market volumes tripled during February/ March. We benefited from that. Asset managers were doing a lot of rebalancing and hedging. Banks were putting a lot of prices out there due to the volatility, so the update rates coming from the liquidity providers tripled. Therefore the market data throughput tripled, not just into the trading systems but also into our normal market data network. So, it was a period of intense activity for a lot of people."

Woodward goes to explain that home working and social distancing have meant greater electrification of flow. "A lot of flow was already electronic, say 75 per cent, but of that remaining 25 per cent, we've seen a lot more of that become electronic because both sides of the trade need it to be. We recently surveyed over 1,000 customers, 30% of whom cited communicating with colleagues as their biggest challenge with a further 19% citing communicating with their counterparties. This all points to the need for electrification." The downside has been felt by voice brokers and those reliant on office environments to trade however. Covid has accentuated the trend towards e-trading.

On the day-to day practical level, Covid-19 has changed buy-side dealing behaviour according to State Street's Jay Hurley. "Clients that are working from home have increasingly turned to executing orders using algorithmic trading where the execution can be tracked in real time electronically," he explains. "State Street has a sophisticated algorithmic

**"As more and more banks set up matching and pricing engines in Singapore, we can expect more ASEAN domiciled clients to move their e-FX trading to Singapore from other data centres."**



Michele Wee

to be markedly down for the next 12 months. We have some people trying to talk it up and say that they see Q3 returning to 2019 levels, and Q4 being more active, but I'm doubtful, personally. Whatever the shape of the recovery, Singapore is well positioned geographically and technologically whilst providing an enticing market environment for eFX." As we've seen, Refinitiv is gearing to make significant in-roads in markets across the region with Singapore at the hub of its ASEAN and Indian expansion.

trading suite for clients backed by deep liquidity to give confidence when executing in volatile markets. The impact on eFX trading has been minimal as people with operational oversight of the systems have been able to be split between working in the main office, working from home and disaster recovery sites."

**BEYOND COVID**

For the time being, Covid 19 is still a factor in Singapore as elsewhere. Home working remains widespread, mass returns to offices seem some way off but what then? What is the longer-term outlook for e-FX in Singapore?

Refinitiv's Jonathan Woodward admits to being more pessimistic than many. "April and May have been much quieter than 2019 averages, and there's a very mixed view as to what's going to happen in Q3/Q4 from a broader economy point of view. I think that the economies are going to take a massive hit for the rest of the year. It will take everybody a long time to get back to work and start spending, and I think corporate revenues and funding flows and everything else are going

At J.P. Morgan, Sudhanshu Sanadhya says that e-FX is a basic building block for managing a multi-currency assets/liabilities portfolio. He is upbeat about the longer-term outlook. "Having such a functionality just opens up a path for further innovations and efficient markets. We've been seeing a trend of increased trading flows in Asia's leading FX trading centre for some time now, which has only accelerated in recent months. We expect the market to grow substantially over the coming years."

Jason Wang at Spark Systems echoes this view, "While I don't have a crystal ball, my guess is that Singapore will continue to grow as an FX centre, attracting more bank desks, whether



Singapore is home to a significant number of regional corporate treasuries



**“The impact on eFX trading has been minimal as people with operational oversight of the systems have been able to be split between working in the main office, working from home and disaster recovery sites.”**



Jay Hurley

buy-side or sell-side, to setup here. And, as the world goes more digital, accelerated by the virus, Singapore will also host more FX related IT infrastructure, servers and services.”

Standard Chartered’s Michele Wee is even more upbeat. “As more and more banks set up matching and pricing engines in Singapore, we can expect more ASEAN domiciled clients to move their e-FX trading to Singapore from other data centres, such as Tokyo and London. This will have a direct and positive impact on improved latency and pricing, as well as increased trading flows for e-FX trading in Singapore. We are also seeing more of our ASEAN-based clients adopt electronic trading and this will continue to drive organic growth.”

She is equally sure about the general outlook for e-trading. “The trajectory for more global adoption of e-trading across all client segments remains a

**ON-EXCHANGE IN SINGAPORE**

SGX – the Singapore Exchange – is Asia’s largest and fastest-growing FX exchange, and the largest international RMB futures market that supports China’s internationalisation of RMB.

Although, OTC markets currently dominate FX trading, with global regulatory developments, this looks set to change as market participants seek more cost-efficient and transparent ways to trade FX. “The trend towards the convergence of the OTC markets and listed FX markets has spurred SGX to develop innovative products like our FlexC futures which have been gaining momentum,” explains K. C. Lam, SGX Head of FX and Rates. “The first-of-its-kind FlexC FX futures product offering, brings together the flexibility of OTC FX with the capital efficiency and surety of centrally cleared futures. SGX FlexC FX futures went live in 2018 and in terms of cumulative volume have since traded US\$285.2 million as at end-May 2020, with increasing interest from clients.”

With the outbreak of Covid, there was a rush to hedge currency exposures which saw a leap in SGX product volumes. “At the peak of the COVID-19 driven market volatility in March, SGX’s aggregate FX Futures volume jumped 58% year-on-year (y-o-y) to 2.97 million contracts. In U.S.

dollar terms, this was at US\$171.5 billion (up 72% y-o-y), its highest level ever,” says Lam. “The increased volumes were driven by INR and CNH contracts, which saw significant increase in hedging activity as commodity traders and asset managers managed currency exposure to protect the value of their assets. More recently, on 4 June, SGX saw record open interest in its USD/CNH futures at US\$8.7 billion, on the back of escalating U.S.-China tensions.”

SGX adds to Singapore’s rich and ever more comprehensive e-FX landscape. “Banks are recognising Singapore as the largest FX centre in Asia, where it is a critical source of liquidity and the centre for price formation for both OTC and listed FX. This also mutually reinforces and further solidifies SGX’s position as the world’s premier venue for Asian FX futures,” K. C. Lam concludes.



K. C. Lam

**“Banks are recognising Singapore as the largest FX centre in Asia, where it is a critical source of liquidity and the centre for price formation for both OTC and listed FX.”**

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With events in Hong Kong unfolding rapidly in a direction that may not suit international finance sector firms, Singapore presents a haven of good order and efficiency

positive one. Regulatory requirements as well as the efficiency and productivity of trade execution are key drivers for market participants to move from voice to electronic trading. No matter where one is in the e-trading journey, the transition from trading vanilla products to trading more exotic products is inevitable.”

#### FUTURE OUTLOOK

Finally, State Street’s Jay Hurley, is quietly sure of the path ahead. “The outlook for Singapore as a regional hub for FX trading is positive. Singapore has been a growth location for FX over the last

decade. Singapore’s pro-business environment and growing e-trading ecosystem will continue to attract buy-side, sell-side and platforms to the country.”

And this is very much to the point when it comes to reasons for Singapore’s continuing growth and success in e-FX. Well regulated and with strong take up of the FX Global Code, MAS is promoting Singapore not only as a pricing and trading centre but also as a node of technology excellence. Link the two and you have a powerful engine for future growth. Meanwhile, with

events in Hong Kong unfolding rapidly in a direction that may not suit international finance sector firms, Singapore presents a haven of good order and efficiency. At the same time, India and ASEAN countries increasingly look to Singapore as their regional finance hub. All of these factors lend credence to the outlook for Singapore as the largest e-FX centre in its time zone with the willingness to open hours that smooth the passage of 24-hour global money flows through London and New York. This is a role that Singapore has successfully developed for itself and which it will increasingly perform.

## MAS - the catalyst for e-FX developments in Singapore

The Monetary Authority of Singapore (MAS) has been a vital catalyst in the successful development of e-FX in the island. Its vision continues to propel the future of the market, as MAS outlined to e-Forex.

### e-Forex: What is MAS’ vision for Singapore as a centre for electronic FX trading?

**MAS:** MAS has been working with industry towards our vision of developing a Smart Financial Centre in Singapore, where innovation is pervasive, and technology is used widely to increase efficiency, manage risks better, create new opportunities, and improve people’s lives. This vision underpins our strategy to develop Singapore as a global eFX centre in the Asian trading hours, and we are constantly on the lookout for innovative ideas and solutions to support our FX markets.

### e-Forex: How has the market responded so far?

**MAS:** Today, Singapore has a diversified base of FX players, including a good critical mass amongst the top 20 global FX players, which have chosen to set up their pricing and trading engines here. Going forward, beyond the global banks, we are keen to see more regional banks, asset managers, funds, and brokerages take advantage of the infrastructure in place and take liquidity from the growing ecosystem in Singapore to benefit from better execution.

Market participants have provided feedback that MAS’ initiative to grow the FX e-trading ecosystem, by attracting key liquidity providers and platforms to base their pricing and matching engines in Singapore, has been strategic and benefitted regional market participants especially during this volatile period in the last few months.

The liquidity providers that have set up their pricing and trading engines in Singapore have also provided feedback that their clients have seen better execution quality with tighter pricings, higher trade fill ratios, and lower rejection rates.

### e-Forex: How far have firms under your supervision progressed with adopting FX Global Code?

**MAS:** In Singapore, the Singapore Foreign Exchange Market Committee (SFEMC), which is co-chaired by

MAS, oversees the adoption of the FX Global Code among FX market participants. To encourage adoption, SFEMC launched its Public Register on the SFEMC website in January 2019. The SFEMC Public Register has also been admitted into the Global Index of Registers. There are 75 Statements of Commitment (SOCs) posted on the Public Register, including both sell-side and buy-side market participants, and comprising a significant proportion of banks in Singapore. As at end-2019, all SFEMC members (both sell-side and buy-side, as well as MAS) had posted their SOC’s on the Public Register.

In addition to reaching out to banks from the Association of Banks in Singapore (ABS), SFEMC has undertaken active outreach to the buy-side community in Singapore via conferences and industry events, to raise awareness on the FX Global Code, and to encourage buy-side adoption.

### e-Forex: Lastly, how is MAS harnessing new technology in pursuit of your vision?

**MAS:** In the area of non-traditional FX FinTech players, we are keen to support FX start-ups that can provide a wider range of product offerings. These include areas such FX options, beyond traditional offerings in FX Spot, Swaps, and NDFs, as well as other innovative FX solutions.

For example, MAS has supported a start-up multi-dealer FX Options e-trading platform, Synoption, which aims to provide more transparent and efficient pricing of FX options to institutional investors, banks, and the buy-side community in the Singapore and Asia-Pacific markets.

MAS has also supported Platinum Analytics, an electronic connecting network, which aims to connect Chinese FX liquidity with global players. Another FX start-up we’ve supported is Spark Systems, a Singapore-based FinTech company that provides high-tech solutions for FX trading. Spark has grown significantly over the past few years and have financial backing from investors such as HSBC, Citigroup, Goldman Sachs and Dymon Asia.



# The Challenges of FX EMS Selection and OMS Integration for Asset Managers

By Richard Estes, Founder and President of eFX Consulting



Richard Estes

The Finance Hive, a networking organization supporting the global buy side trading community, recently published the second report in a series entitled “Global Pulse: FX Platforms”. This report, based on the views of key decision makers for FX for North America-based asset managers,

follows an initial report published last summer incorporating the views from their European-based peers. Many in both groups cited a desire to implement a new FX execution management system, or EMS platform, and the top priority in doing so is to have one that offers both “integration and support with existing order management systems”, or OMS. This desire became more pressing this past March as the pandemic forced buy side staff to begin working from home, where many began trading from their living rooms and home offices for the first time. While the various FX EMS platforms performed particularly well when accessed remotely, the surge in trading volumes that occurred during March made the sudden adjustment extremely difficult for many buy side firms as it exposed the inadequacy of OMS-EMS integration. Many traders were reliant upon e-mail, chat groups, and cell phones to collect information on required FX trades and to coordinate their execution amid an increase in market volatility and thinning of liquidity.

The experiences of March have clearly identified for many asset managers the work that needs to be done in order to automate their FX workflow. But is it that straightforward a task to do?

The evolving FX trading needs of asset managers, particularly those of real-money asset managers, have made OMS integration challenging for a number of reasons. Foremost is a desire to implement new EMS platforms that incorporate more advanced trading methods, such as access to streaming liquidity, use of algorithmic execution tools, and interaction with non-bank providers. Offsetting this desire however is a need to retain functionality provided by legacy multi-bank FX trading platforms, such as portfolio-based

trade execution with account allocations, flexible trade requirement netting, and cross-currency netting.

To understand the challenge of OMS-EMS integration for FX trading, it is first necessary to understand the role in FX trading that both an OMS and FX EMS play. Second, FX EMS have evolved over the past two decades since the advent of electronic FX trading, and the desire to incorporate more automated methods of execution has not always been easy to achieve while retaining traditional FX EMS functionality. Finally, the replacement of an FX EMS with another one is not necessarily straightforward, due to the interoperability between the OMS and the old FX EMS that may be different for the new FX EMS.

## OMS – FX EMS WORKFLOW

The OMS is designed to support the investment lifecycle, which includes portfolio modeling, trade generation, cash management, and compliance modeling across asset classes. FX orders that are created by the OMS are typically the byproduct of investment activities, such as the settlement of securities trades, bond redemptions, and income collection, all of which create cash flow events. These cash flow events are viewable via a cash ladder which shows the funding needs, per currency, across future dates for each fund. The OMS has the ability to create an “FX order” for each cash flow event, which then can be sent to a connected FX EMS.

The FX EMS is responsible for taking these FX orders, also known as trade requirements, and using them to construct a portfolio, or block, of trades. These portfolios will contain FX trade requirements with similar attributes – same currency pair, same dealt currency, settlement date(s), and

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The Challenges of FX EMS Selection and OMS Integration for Asset Managers

fund name(s). To the extent that funds included in the portfolio permit netting, the purchase amount of a currency by one fund can be offset by the sale amount of that currency by a second fund. Once the portfolios have been staged, the asset manager's FX trader can choose the method of execution that the FX EMS supports: request for quote (RFQ), request for stream (RFS), executable streaming price (ESP), algorithmic execution, or WMR fixing.

EVOLUTION OF FX EMS

First-Generation FX EMS

The first generation of FX EMS, launched during the early 2000s, were designed to automate the creation of these portfolios. The original FX EMS, FX Connect and FXall, had the ability to import trade requirements and classify them as either spot, outright, or swap trades. Portfolio grouping rules allowed trade requirements to be netted, both within a fund and across funds, by currency pair. This aggregation enabled a portfolio's

trade requirements to be priced in a consistent manner using a common spot reference. While these trade orders were designed to be transmitted as an RFQ to a bank's sales desk for manual pricing, technology soon enabled them to be priced electronically as an RFS by a bank's rate engine, with the resulting account allocations passed to the bank's back office system.

Next-Generation FX EMS

During the mid-2000s, bank rate engines for several Tier 1 banks evolved into an equities-style execution method, offering ESP, based on depth of book liquidity, via their single-dealer platforms (SDP). While ESP quoting was viewed by many buy side participants as highly desirable versus RFQ or even RFS, it was not accessible to asset managers who traded FX across numerous funds and were reliant upon the trade workflow established by FX Connect and FXall. Meanwhile, the original technology

frameworks for FX Connect and FXall did not enable them to implement ESP-based pricing for their portfolio trading. New FX EMS were developed during the early 2010s that strived to solve this problem. Two such platforms, InvestorFX from Integral and InstiFX from Molten Markets (now EBS Institutional from CME Group), implemented more equity-style trading tools built on top of the workflow functionality used by FX Connect and FXall. Due to their connection to sister ECNs, both platforms incorporated live market data which supported pre-trade "Expected Cost Analysis" (ECA), allowing an asset manager's FX trader to analyze alternative execution methods supported by the platform. The execution methods included both the traditional RFS as well as ESP and algo-based execution. Additionally, EBS Institutional included transaction cost analysis (TCA), commonly used in equities trading, to evaluate the quality of execution across various liquidity providers.



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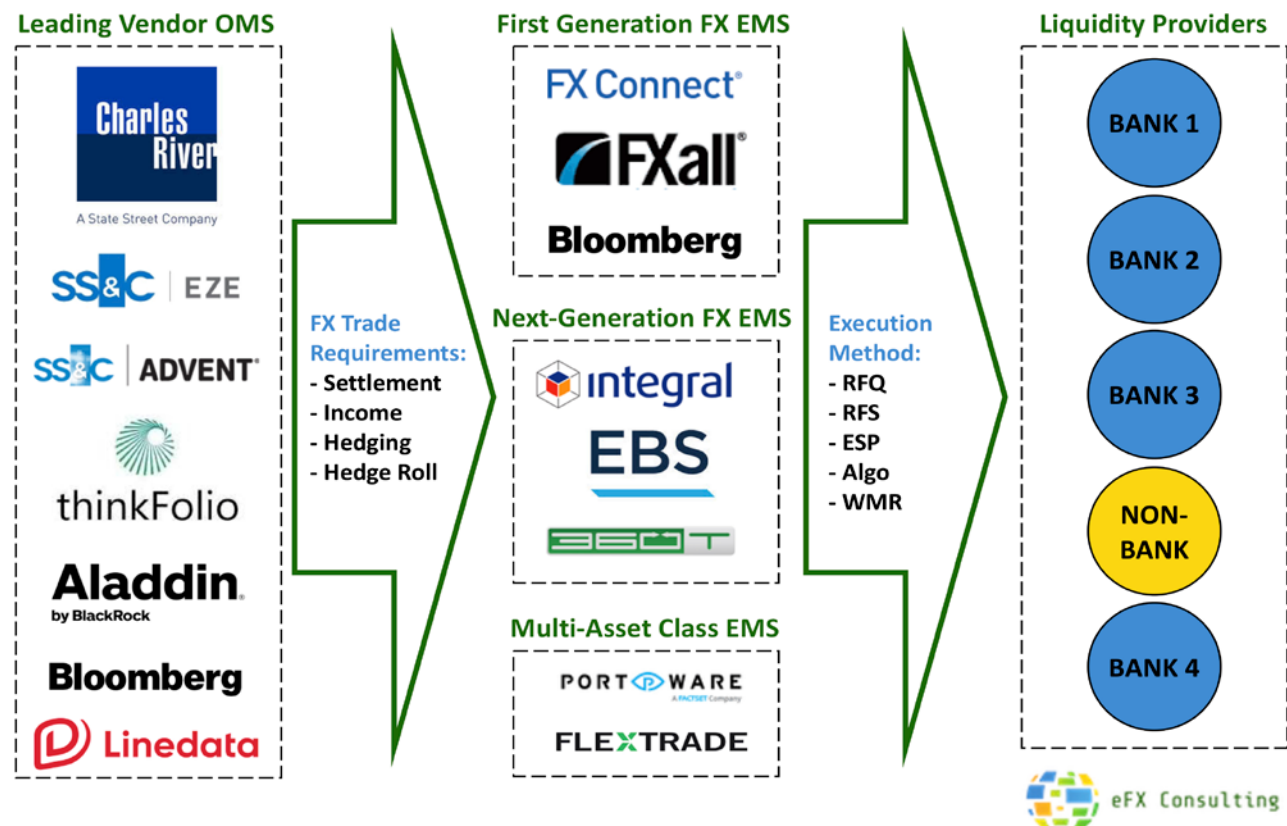
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## OMS – EMS - LP ORDER FLOW



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### Multi-Asset Class EMS

As equities-style trading methods debuted in FX EMS, existing equities EMS began to challenge the FX EMS as well and expanded into additional asset classes, including FX, with the goal of providing a multi-asset class EMS to asset managers. Two such EMS, FlexTrade and Portware, reckoned that traders from asset managers would prefer to operate a consolidated platform for all of their trading activity, with the belief that each asset class would adopt similar trading methods. While rich in execution tools, these platforms had to develop the workflow functionality of an FX EMS, namely the ability to group FX orders received from an OMS into portfolios, enable account- and portfolio-level netting, outright and swap pricing, and passing of allocations to an LP.

### WHY REPLACING AN FX EMS IS NOT THAT SIMPLE

While many asset managers may wish to implement a new FX EMS, some may find it difficult to do so for numerous reasons:

- **Workflow support** – a new FX EMS may not be able to support an asset manager’s workflow the way that the existing one does. For example, it may lack netting capabilities, or specific controls on how to manage netting.
- **Liquidity provider support** – not all of an asset manager’s LPs may be able to support the different workflow of a new FX EMS. While an asset manager may desire to trade with a non-bank LP, workflow considerations may prevent that.
- **Regulatory reporting capabilities** – a new FX EMS may not operate as a SEF or MTF and therefore be able to provide necessary trade reporting, for example under MiFID. Instead,

this reporting may need to be supported by the OMS.

- **OMS integration method/support** - while many FX EMS integrate with the leading OMS, a new FX EMS may integrate differently with an asset manager’s OMS than the existing one, due to the method of interface used (FIX/web service/file) and the fields and message types supported.
- **Limitations of OMS FX trade origination** – an OMS may be limited to supporting the investment-related activities managed by the OMS (e.g., securities trading and settlement, bond redemption, portfolio hedging). Other investor-related activities that also generate cash flow activity for offshore funds (e.g., transfer agency, share-class hedging) may occur outside of the OMS.

### THE REALITY OF OMS-EMS INTEGRATION

While many asset managers wish for better OMS integration with their chosen FX EMS, in reality integration already exists. An informal survey of several FX EMS platforms state that they are integrated with leading OMS platforms, many of which are listed in the accompanying diagram.

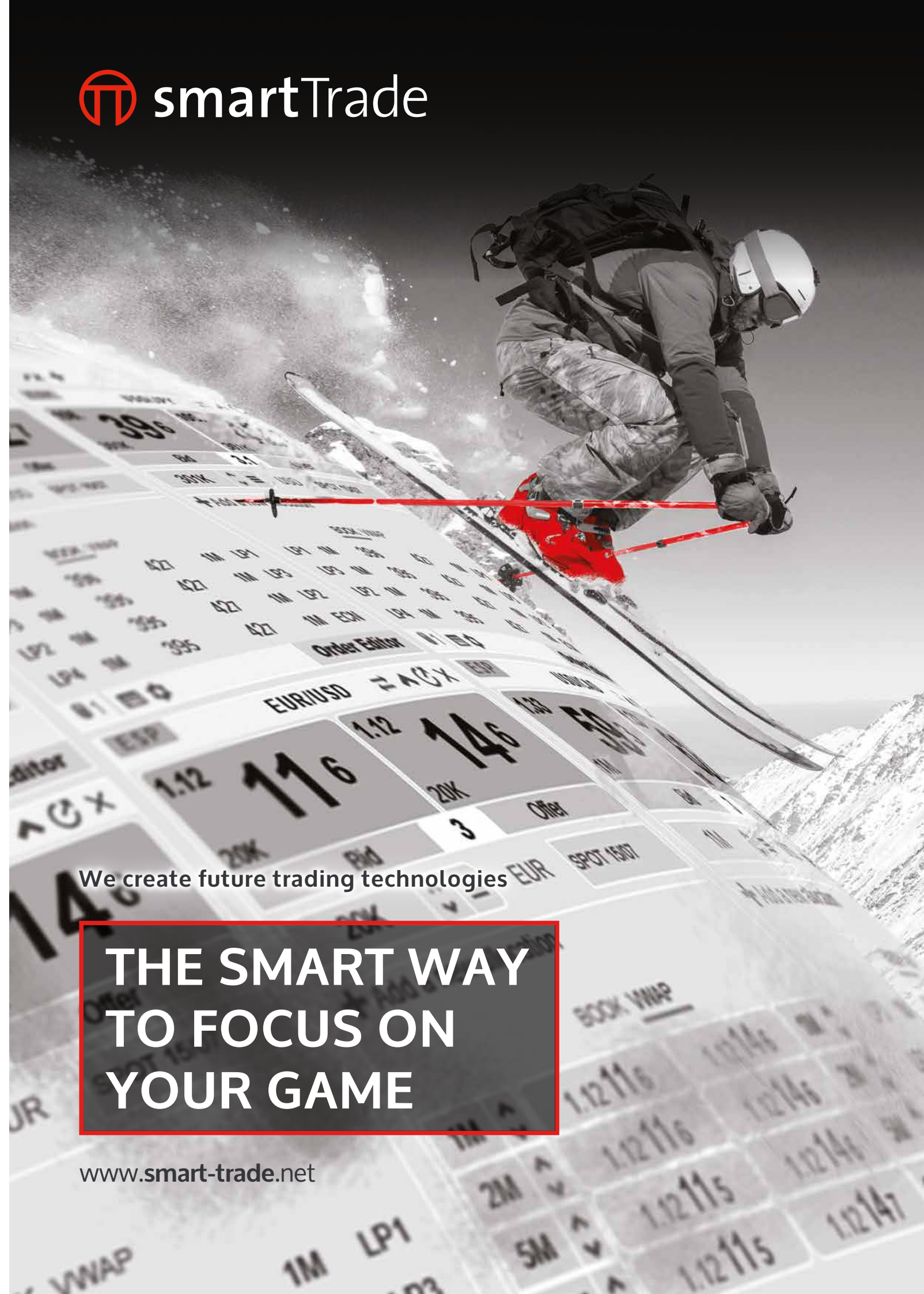
The OMS is the “backbone of an asset manager’s systems architecture”, says one product manager from a leading OMS vendor, and “touches on so many aspects of the trading lifecycle”. As such, selection and implementation of an OMS is an “enterprise decision” around which all other technology choices, including an FX EMS, are based. As a result, FX EMS is dependent upon the capabilities of the OMS, which may limit supported functionality. For example, some OMS have the ability to create FX orders, or pass fields describing the underlying reason for the

FX order (e.g., bond trade, cash inflow) while others may not. As a result, integration between a particular FX EMS and different OMS can vary.

Subsequently, many asset managers have chosen to implement a second FX EMS, due to the fact that there is no one FX EMS that is considered best in breed across all desired functionality. While some FX traders will prefer using a platform such as Portware, InvestorFX, or 360T’s EMS that can support more automated trading, the first-generation FX EMS such as FX Connect and FXall now also include algo-based trading.

Meanwhile, there is still a need for more manually-controlled FX trading. For example, many of the largest asset managers still continue to use FX Connect as a means of executing restricted currency trades with a custodian bank as such trades cannot be electronically priced immediately. Indeed, a senior portfolio manager at Dimensional Fund Advisors says he uses multiple FX EMS, viewing them as “tools in a tool box”.

Finally, another important consideration for implementing a second FX EMS, rather than replacing the existing one, is concern over project execution risk. For one, the interoperability between an OMS and different FX EMS can vary. Two, the way that a particular LP supports one FX EMS versus a second FX EMS can also vary, particularly when it comes to post-trade processing of trade drop copies. Because the FX EMS sits in the middle of the OMS - LP workflow, there are both upstream and downstream considerations to anticipate. When addressing the desire to replace an FX EMS and achieve better integration with their OMS, asset managers need to balance their objective for more automated trading with the need to maintain established trading workflow practices.



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# Pragma

The award winning quantitative technology provider that strives to connect traders to markets in a more transparent and intelligent manner

Pragma specializes in multi-asset class algorithmic trading solutions. The firm prides itself on a business model that does not conflict with clients' which helps to create more sustainable, value added and long-term partnerships. We asked David Mechner, CEO of this dynamic and fast growing firm to tell us more about what his team has been doing in the FX space.



David Mechner

## David, please tell us a little about your background and how you came to launch Pragma?

I've always been fascinated by systems where complicated behavior arises out of (relatively) simple rules or components. In high school, I became fascinated with the Asian strategy game of Go, and became a serious player. After graduating high school I moved to Japan as a live-in disciple of a Go master and competed in the professional promotion system there.

After a year and a half, I found my life goals shifting back to more traditional ambitions for an American teenager, and returned to college at NYU where I studied computer science and focused on Artificial Intelligence.

As an undergrad I started a project to develop a Go playing AI program (sadly less successfully than Deep Mind's recent efforts with AlphaGo). I then entered a neuroscience PhD program, also at NYU. After four

years, during my dissertation research, I dropped out to join a small hedge fund that was started by friends in 2000.

One of my main projects there was building automated trading software to execute equity strategies, and I became excited by the potential of building software that was clearly so necessary and beneficial to the industry. In 2003, I started Pragma with the goal of offering automated trading software to institutions – and though we've grown a lot since then, we still have the same vision and focus we did 17 years ago.

## What products and services does Pragma offer and who are you providing these for?

Pragma is an independent quantitative trading technology provider that specializes in algorithmic trading solutions. We offer a fully managed, hosted, algorithmic trading platform for equities, futures and FX that allows

clients to leverage the benefits of an in-house system, while outsourcing the maintenance and development to a specialist.

Pragma has a unique niche with sell-side institutions across global banks and broker-dealers that want to offer high performing execution algorithms to their institutional and corporate clients. The business offers deep customization and has the ability to integrate with our clients' own unique liquidity pool – through their in-house aggregator or a third-party – allowing banks to offer their clients a truly private label offering.

Pragma provides the full hosting and management of the platform, the research and development behind the algorithms, ongoing maintenance of the algorithms, and first-level support directly to our clients. We also offer a series of additional tools to support our execution algos, such as real-time monitoring through our Algorithmic Management System



Our market microstructure knowledge and technology know-how create a powerful combination



(AMS), Panorama, our historical Transaction Cost Analysis (TCA) portal, TradeReports, and our post-trade TCA snapshot, TradeRecap. These powerful tools allow Pragma's clients to have an experience that is equal to, if not better than if they built everything in-house.

For the buy-side, we partner with quantitative hedge funds to customize execution algorithms across a unique liquidity pool that we host and manage. Our combination of market microstructure knowledge and technology know-how for hosting and building trading software create a powerful combination which generates significant economic value for our partners.

In short, what Pragma offers to both buy and sell side clients is very much a partnership. As Pragma is independent and does not act as a broker or a CCP, has no principal trading operations, nor is associated with any source of liquidity, its interests are uniquely aligned with our clients.

**How has your business fared over the past year or so? What have been the key drivers of growth?**

Pragma has benefitted from the continuing trend towards more electronic trading in the FX markets, and in particular the growth of algorithmic trading. About six years ago, we entered the FX market, partnering with an existing client of ours. We launched Pragma360 FX, a unique service that enables banks to bring online market-leading execution algos for their internal traders and clients in a way that is much faster and less expensive than if they tried to build them in-house.

We've seen strong growth as more banks meet the demands of their corporate and institutional clients by offering them an algorithmic

trading platform. As they and their clients become comfortable trading algorithmically, our overall volumes continue to grow – especially given the recent market volatility.

**Why are increasing numbers of trading firms choosing to outsource their FX algorithmic trading requirements?**

We see two main reasons why firms are choosing to outsource their FX algo trading technology. The first is that demand amongst institutional and corporate traders to access FX algos continues to grow.

Some institutional and corporate clients are going so far as to demand that for any of their trading counterparties to be relevant, they must have execution solutions across all fronts in order to do business. This means banks need to offer high quality FX research, high-touch trading coverage, streaming and RFQ, e-FX plus execution algorithms. As such, more and more banks will wish to offer an algo solution.

The second reason more firms choose to outsource their FX algo solution is that algorithmic trading is a very specialized service. To build a high quality, institutional offering requires a strong investment in time, personnel, money and internal resources as well as institutional expertise that is not easy to develop or acquire. There is also very high level of project risk, and time to market can take years given all of the infrastructure requirements and market microstructure knowledge needed.

Outsourcing to a quantitative trading specialist like Pragma can significantly reduce the cost, time to market, and overall project risk. With demand continuing to increase for execution algos, a speedy time to market

with a proven product can be quite compelling.

Even clients with the resources and know-how to build execution algos themselves often prefer to focus their internal resources on other projects and initiatives that are more proprietary, or where there is no adequate vendor solution.

**What factors make FX such a good fit for algorithmic trading?**

The factors that make any market prime for algorithmic trading are fast electronic markets, fragmentation, small trade sizes and streaming real-time market data. Each of those factors multiplies the challenge and complexity of achieving best execution and increases the value that execution algorithms can deliver.

Spot FX meets all these criteria and is therefore an excellent market for algorithmic trading. Using execution algos for spot FX has proven effective enough that traders are now also using them for NDFs, which Pragma rolled out a few years ago.

**As more FX trading firms become comfortable utilizing FX algos, what trends are you seeing with respect to customized execution toolsets?**

We've been providing execution algos since 2003, which gives us so much breadth in how our algos can be customized. As many FX traders have been using execution algos for several years now and through a variety of market conditions, they are increasingly interested in customizing certain algorithms to meet their trading needs and styles more specifically.

The most common form of customization we see is around



What Pragma offers to both buy and sell side clients is very much a partnership

routing and liquidity - such as including or excluding certain venues and which venues are used for posting or taking, or incorporating custom liquidity pools.

An example of algo behavior customization requests we see is to adapt the rate of trading, like speeding up or slowing down when the market crosses through certain price benchmarks such as arrival price, or the trailing TWAP price.

**Most large asset managers are now using FX algos and can clearly see the benefits of doing so but corporates are taking longer to come aboard. Is the value proposition as strong for them?**

The value proposition for using FX algos is as strong, if not stronger for corporates than money managers. The reason is that corporates have zero alpha in their trades – trading only to

hedge or fund a position. When alpha is low, or non-existent, spreading a trade out over time will, on average get the trader a better price. This is where algorithms like TWAP/VWAP or "Float" style strategies work well for traders to reduce costs as they can trade large orders over several hours.

In short, trading algorithmically saves money. Additionally, execution algorithms also provide increased anonymity on orders, and since





Pragma has benefitted from the continuing trend towards more electronic trading in the FX markets

corporates can have large orders, the ability to access liquidity in the market without the corporate being identified helps reduce market impact.

**Are there any lessons that FX can learn about algorithmic trading in other markets that would increase adoption rates and help to build further confidence in it?**

Market structure experts commonly refer to the trend towards algorithmic trading in FX as the "Equitization" of the FX markets. The reason is that the global equities market, particularly in the US, went from mainly high-touch to nearly 80% algorithmic in only a few years.

The equity markets have also seen a proliferation of TCA usage coupled with increased transparency to ensure traders achieve the best possible prices in the marketplace. As FX traders continue to use, and become more comfortable with execution algos, we

anticipate the percentage of order flow they handle algorithmically to continue to rise.

**NDFs is likely be at the center of the growth story in FX over the coming years. Is this market suitable for algorithms in the same way as spot?**

Up until a couple years ago, NDFs were not really suitable for algorithmic trading for two reasons: first, banks and non-bank liquidity providers had been unwilling to provide dealable prices for NDFs on ECNs and inter-dealer markets. Second, banks and non-bank LPs did not have the ability to stream prices electronically.

Both are prerequisites for algorithmic trading of NDFs. As more banks have begun streaming NDF prices and more venues support NDFs, algorithmic trading of NDFs has become increasingly effective. As such, looking across the rest of 2020 and into 2021,

NDFs will certainly be a center of growth for algorithmic trading.

**Pragma has a dedicated team of PhD practitioners focused on understanding market structure and its effect on trading results. In what ways has that enabled you to leverage this expertise to build better products?**

One of the main factors that separates Pragma from other vendors, as well as many firms that build their own execution algos, is the depth of our research focus on market microstructure to improve execution quality.

As an example, let's take something as basic as a TWAP algorithm. Most technology providers can build a basic "egg-timer" that simply crosses the spread after each defined time interval.

But when you apply market structure expertise, you start to factor in



Our interests are uniquely aligned with our clients

decisions such as which venues to post at, which to take from, how to best leverage firm pricing or last look, and even time-of-day effects.

We also understand how to modify a TWAP algo based on daylight savings, when NY and London have a four-hour time difference instead of the normal five hours. These examples demonstrate the granular level our team goes to learn in order to improve execution quality even for an algorithm as simple as a TWAP.

**The chaos surrounding Covid-19 has tested the resilience of many FX and technology providers. How has Pragma been coping with the increased demand?**

Fortunately for our employees and our clients we were well prepared for working from home, which Covid-19 naturally required. Several years ago, we had to work remotely as sections of Manhattan lost power as a result of

Hurricane Sandy and we couldn't get to our office for a few days.

Obviously, a few days is different than what will probably turn out to be several months with Covid-19. But since that experience, we've tested our remote capabilities annually, which has really paid off for us. The team and our systems have worked great,

we handled huge trading volumes in March and April while maintaining our high level of service for our clients, as 100% of Pragma staff members worked from home.

**Has an environment of increased volatility and difficult liquidity conditions played into the strengths of algorithmic trading?**

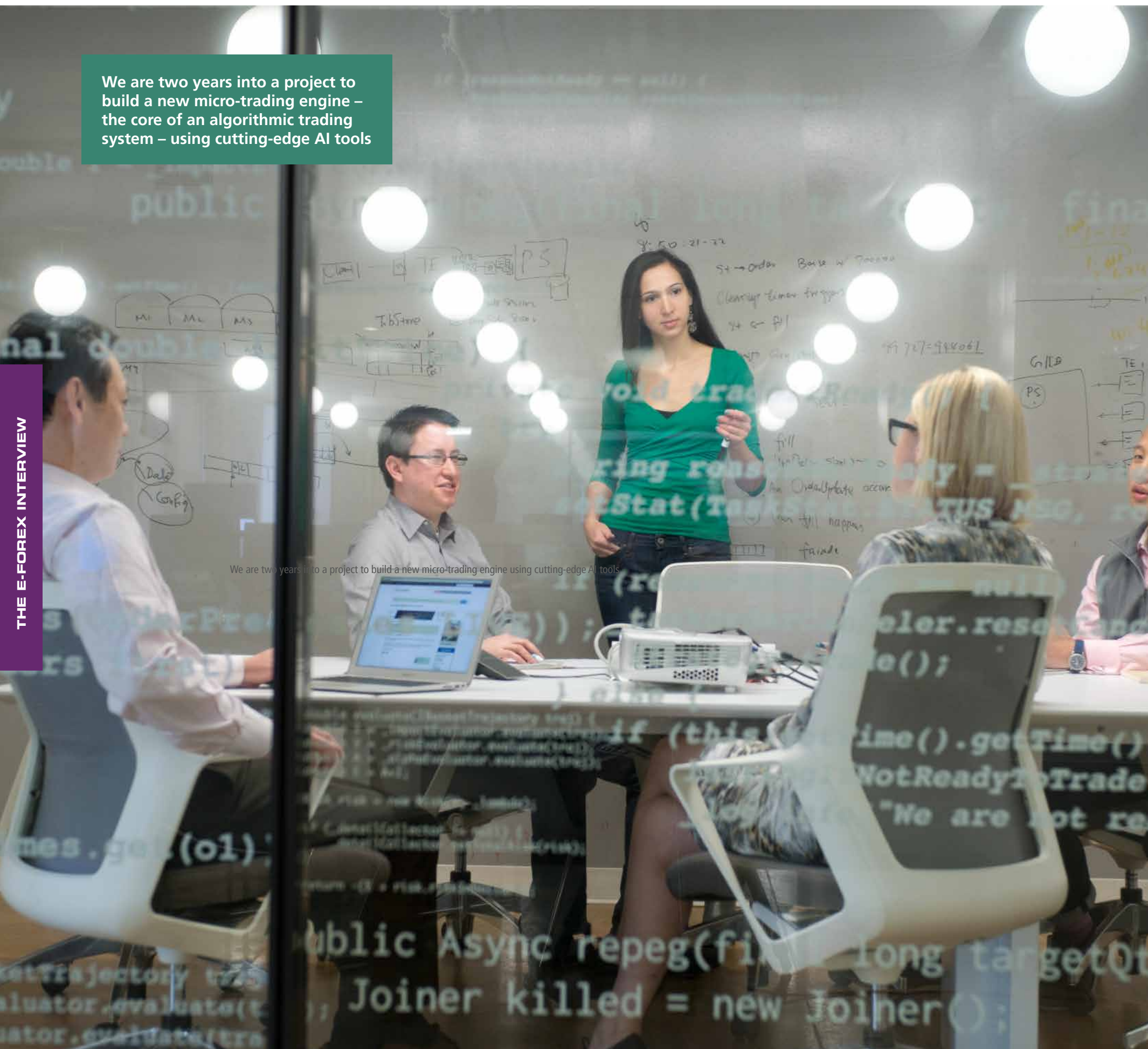


Outsourcing to a quantitative trading specialist like Pragma can significantly reduce the cost, time to market, and overall project risk



We are two years into a project to build a new micro-trading engine – the core of an algorithmic trading system – using cutting-edge AI tools

THE e-FOREX INTERVIEW



We are two years into a project to build a new micro-trading engine using cutting-edge AI tools

Algorithms are effective in a wide range of market conditions. The most effective algorithms will trade over an aggregate pool of liquidity. When liquidity is difficult, algorithms can be quite effective in sourcing the best price.

In addition, during periods of heightened volatility, spreads typically widen. When this happens, algorithms allow the trader to post and capture some of that widened spread, rather than trading at the far touch of the market.

Thinking about it a different way, when volatility is high and risk is expensive, breaking orders into small pieces spread out over a longer period can make the job easier for the providers of liquidity, and thus cheaper for the consumers.

**Where is the next round of innovation in algorithmic FX trading likely to be focused?**

We expect that NDF algorithms – which we launched a few years ago but others are only getting started in earnest – will continue to grow faster than spot. We also see further use of artificial intelligence and machine learning techniques to further improve trading performance.

**How is Pragma exploring AI and Machine Learning tools and building this into your product suite?**

We are two years into a project to build a new micro-trading engine – the core of an algorithmic trading system – using cutting-edge AI tools. We began in US equities, and are now six months into production – we are already seeing excellent results.

We are now in the process of applying the principles and techniques we

developed in that effort to FX. The challenges are quite different – because of the different quality and quantity of data available in the US equity market verses FX, and the disclosed or only semi-anonymous nature of most FX liquidity.

But many of the core principles are applicable, and we're optimistic we'll be able to achieve benefits for our customers and further raise the bar for execution algorithms.

**How much global growth potential do you see for algorithmic FX trading over the next few years, and how can Pragma maximize the opportunities?**

Market structure surveys, such as those from Greenwich and Aite Group towards the end of 2019, have algorithmic trading growth relatively steady at about 15% of overall spot market trading. For the real money and corporate traders that use algorithms, usage is at about 40%. This demonstrates that there are still many market participants that do not use algorithms or use it for a small percentage of their order flow.

Our goal is to continue to increase the functionality and the execution quality of our algorithms while providing the traders with the control and transparency they need to do their jobs even better. This means we not only improve the algorithms but also the trade support tools like TCA and our algorithmic management system, Panorama.

Ultimately, trading algorithmically is cheaper than trading manually, and the competitive and regulatory pressures to achieve best execution create unstoppable momentum. It may take years to play out, but we think the end-point of significantly higher algorithmic usage is inevitable.



# The trading desk of the future needs people as well as machines

The future of financial services will be a true merger of the best of both human and machine, according to a report produced by Refinitiv with Greenwich Associates. It finds that over the next three to five years investing and trading decisions will still need to leverage human intuition, while data analysis and trade execution will become increasingly automated and more efficient. Nicola Tavendale investigates.



Nicola Tavendale

The series on the future of trading explores how technology and the growth of data have kept markets moving, with the third and final paper revealing the impact of this evolution on the traders themselves. Michael Chin, Managing Director and Global Head of Trading Proposition at Refinitiv says that when it comes to the future of work, innovation is often met with scepticism no matter

how awe-inspiring it appears. Yet this report sets out to debunk many of the fears about 'machines taking over the world' and instead explains how the industry can better adapt and move forward, he adds.

"Despite advances in AI and data analytics, people are still in charge. In fact, as technology becomes increasingly sophisticated, new opportunities for

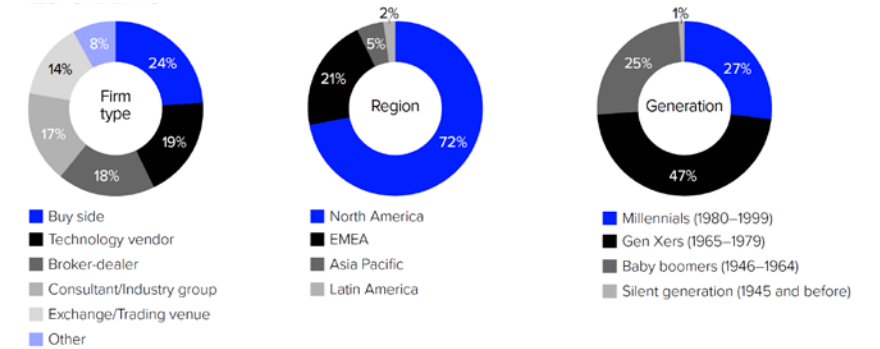
top-tier talent are emerging," Chin explains. "It's apparent that the source of this talent has been shifting for years now. While finance has been the most common educational path to the trading profession, it's certainly not the only one."

### OPPORTUNITIES FOR GROWTH

In addition, the FX market has evolved somewhat differently to other asset classes in terms of automation and the electrification of instruments. Regulatory reforms ushered in following the financial crisis have led to market structure changes in FX, including the introduction of SEFs, the rise of single-dealer and third-party platforms and an increased focus on algo trading. The Covid-19 pandemic has also accelerated a global shift in regulatory and institutional openness to the increased use of technology in FX trading, which has had to be rapidly re-evaluated in order to enable more traders to work from home. One key example of this shift is the widespread reports of an upturn in electronic FX trading volumes across all the leading banks, with a notable rise of algo trading as clients seek out strategies to help them navigate market volatility.

*The Future of Trading: The People* is based on a global study conducted in April 2019 by Greenwich Associates with 107 capital markets professionals, which examined technology trends, the data explosion and the skills required to be successful in capital markets in the future. The findings show that about 56 percent of financial markets professionals have finance degrees, but computer science and engineering backgrounds are increasingly prevalent - and gaining.

"The reason is that new solutions require deep knowledge of both



Respondents to Greenwich Associates study

financial markets and technology," adds Chin. "The 'digital natives' will be the ones who understand the technology and are more attuned to and willing to explore potential innovations. As a result, we're seeing more quants, data scientists and programmers in the field, who are focused on advanced analytics, algorithms and process automation solutions rather than user experiences."

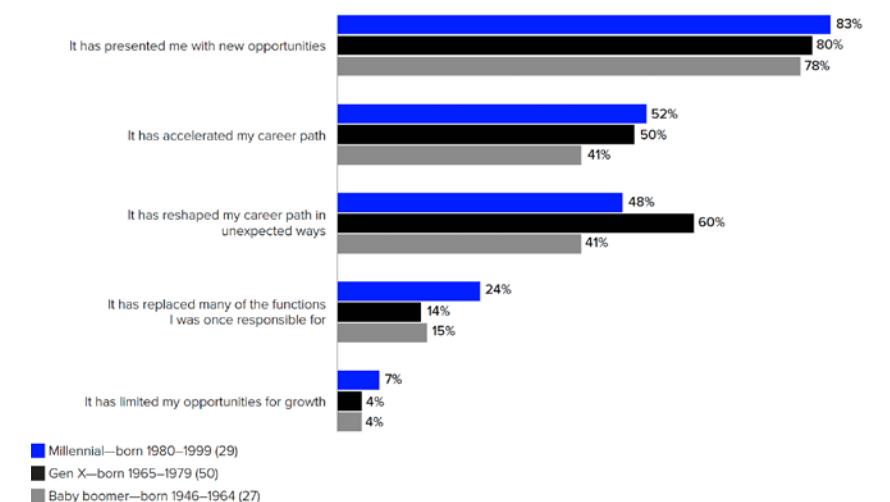
However, Chin argues that technology is not replacing humans, but rather enhancing their work experience. Around 80 percent of the finance professionals surveyed for this report felt that technology has provided them with new career opportunities and half also said it has even accelerated their career growth. Perhaps surprisingly, it is not just younger generations who are seeing the gains, with some 60 percent

of 'Gen Xers' saying they believe technology has reshaped their career in unexpected ways, much higher than among baby boomers, at 41 percent, and even millennials, at 48 percent.

### BENEFITS OF AUTOMATION

In fact, some 85 percent of respondents claimed to be unconcerned that technology might replace their current job. Even so, two-thirds of finance professionals expect about 25 percent of their jobs to be automated in the next three to five years. Yet according to Kevin McPartland, Head of Research, Market Structure & Technology at Greenwich Associates, this increase in automation is actually a good thing. He explains: "Automation will expand in nearly every facet of the trading process: in data analysis, trade processing and, of course, trading itself. But we should rethink

### TECHNOLOGY IMPACTS ON CAREER



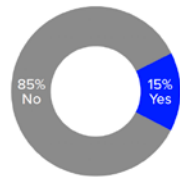
Note: Based on 107 total respondents (numbers in parentheses are respondent bases). Source: Greenwich Associates 2019 Future of Trading Study



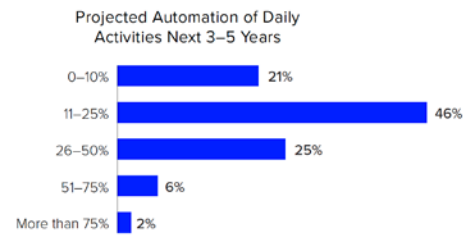
## The trading desk of the future needs people as well as machines

### TECHNOLOGY AND AUTOMATION

Proportion Concerned Technology Will Replace Current Job



Note: Based on 107 respondents.  
Source: Greenwich Associates 2019 Future of Trading Study



our preconceived notions of what automation does to jobs and look toward the opportunities presented and away from jobs that automation might make obsolete.”

Firstly, he believes that automation allows valuable and often expensive employees to focus on even more valuable tasks throughout the day. In addition, McPartland says that automation cannot be deployed with a “set it and forget it” mentality. “Whereas traders need trading and executive assistance, software needs developers, testers, business analysts and front-line tech support,” he adds. For instance, before Dodd-Frank electrified the swaps market in the US, trades were done over the phone between an investor and dealer.

According to McPartland, while this manual approach was considered easy, it also brought with it the opportunity for a lot of human error, from incorrectly entering the execution price into the system to not recording the trade altogether, leaving the firm unknowingly exposed to millions of dollars in losses.

“Today, much of the opportunity for human error has been removed from the system, massively limiting counterparty, operational and other risks - a good thing for the market and the safety of the world’s financial system,” he says. “However, the complexity inherent in the web of technology that manages the process, from pre-trade to post-trade and beyond, presents a new set of risks

that must be closely monitored and managed. Most agree that the new way is much better than the old way, but the best and brightest are crucial to keeping that train on the tracks.”

### BETTER WAYS OF WORKING

Jobs data from the US Bureau of Labor Statistics provides further quantitative proof that people are still in charge. Roughly one million finance jobs have been added in the past decade following the lows of the financial crisis, growing by nearly 12%. As McPartland has already noted, the nature of these jobs and skills required have changed. “While those that know the markets and can work with clients remain highly valuable, those with technical expertise, particularly when it comes to data science, are increasingly just as important to long-term success,” he adds. “In rebuilding their rosters over the past decade, capital markets firms have brought on those individuals who are expert in solving today’s problems, not those with past expertise.” Although there have certainly been bouts of ‘rightsizing’ across the industry in recent years, McPartland says it is important to remember that anytime a job is lost to automation, another exists somewhere to build and maintain those computer algorithms.

Having been freed from mundane tasks like manual processing, portfolio managers, analysts and brokers will also have more time to work one-on-one with clients and focus on activities that save costs, add value or increase revenues, adds Chin. In addition, he

believes that technology innovation promises to make capital markets and interaction between people more efficient, particularly as the buy side will continue to look to the sell side for market colour, capital commitment, research and other value-added services.

“As trade ideas morph into idea discussions, the sell side is expected to increase the use of digital communication tools to chat, discuss trades and collaborate more broadly. In this new market environment, traders will become execution consultants, while portfolio managers will rapidly identify, evaluate and test investment ideas,” Chin says. Machines will, in turn, do the data consumption, deep analysis and execution of trades and investments, while humans will continue to work with customers, identifying nuanced opportunities in the process as well as negotiating and managing their client relationships, he adds.



Michael Chin

### PANDEMIC AND ITS IMPACT

The nature of work is undeniably changing, notes Chin. In fact, he believes the importance of trusted relationships has never been so pronounced as it has been during the COVID-19 pandemic. Markets and institutions globally, have had to grapple with new ways of working during this time of historic volatility

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and uncertainty. "Capital markets are still, and will continue to be, run by people, for people. It is people who will need to program the robots and talk to customers. And it will be people who build trust, engage in personal interactions and identify the next 'big idea'," Chin adds. "More than ever, it is the people working in the financial industry who are providing that calming voice to worried clients facing unprecedented market movements."

Even during the Covid-19 crisis, the FX markets have also not held back, with a number of new and innovative solutions having been launched during this period. In March, for example, The Bank of China unveiled its AI currency price prediction app, which is available through the Refinitiv Eikon. The tool, known as DeepFX, covers six major currency pairs and is, according to the bank, aimed at "helping traders, quant developers, FinTech innovation heads, as well as data scientists", while Refinitiv noted that it is a "timely and practical tool to empower users with the insights they need to navigate the turbulent FX landscape."

Refinitiv has also recently launched an API tool which will automate access to its FX swaps trading venue, the Refinitiv Forward Matching MTF, for clients which it says will also improve efficiency. "With the move towards electronification of FX swaps trading comes the need and the opportunities for more innovative solutions to drive efficiencies without sacrificing liquidity and effective trade execution," says Paul Clarke, head of FX venues at Refinitiv. "This is especially true in the ongoing market where the trading workflow has changed considerably."

#### ADAPT TO SUCCEED

Even in 1995, programming was still being treated most often as an operations function, done away from

business leaders, notes McPartland. Technologists were only on the trading floor when they needed to gather requirements for a new system or when something went wrong. "In this environment, data was ingested primarily by human eyes, with candlestick charts and spreadsheets being the primary means of consumption," he explains. "Fast-forward two decades. Nearly everyone programs on the trading floor, or at least knows how to. Programming classes begin in elementary school, so getting to Wall Street without that knowledge is nearly impossible."

Trading and investing decisions are still overseen by the best and the brightest, but the data consumption, deep analysis and execution of those trades and investment ideas are all done via machines, McPartland observes. "Traders now act more like commercial airline pilots, keeping an eye on the autopilot and only stepping in when something goes wrong, the route changes or the landing is more complicated than usual. But trust still matters, with firm and personal reputations continuing to play a huge role in which businesses succeed and which do not," he argues.



Kevin McPartland

Complex markets will also still operate with a tremendous amount of one-on-one negotiating, according to

McPartland. However, he believes an increasing amount of that communication will be digital, making deals happen more quickly and allowing compliance departments to ensure everything stays above board. "In five years' time, we will not find it necessary to do research about the impacts of this technology, as the market and increasingly the world will see today's technology as a part of life and not something new and interesting," he adds. "Of course, there will be new innovations and ways of doing business - ideas that we haven't thought of yet or that even seem possible in today's world. But as it has over the past five, 20 and 50 years, the financial services industry and all those that work in it will adapt and move forward."

Just like innovations of the past, today's technology will not make humans obsolete but will become normal ways of doing business, Chin adds. "How well financial firms adapt and evolve will determine who succeeds in the digital age," he says. "At Refinitiv, we remain committed to providing traders with data and the technology to power the future of trading."

Trade ideas have morphed into idea discussions that often include interactive charts and historical data that both sides view, adjust and mark up in real time, McPartland adds. "We and others have written about the 'digital native' generation coming into the market and the impact that will have on the trading desk. We have news for you: that time is now - and the digital generation and their ability to collaborate in real time without speaking is upon us," he concludes.

The full report is available here: <https://www.refinitiv.com/en/resources/special-report/future-of-traders-machines-working-together>

# The blend of technology, people and innovation in FX

The report's key findings provide an important roadmap for all in the FX markets. e-Forex speaks to Jill Sigelbaum, Head of FXall, Refinitiv about how technology and people can together build a more efficient and robust industry, even in light of the current crisis.

#### In the FX market, how significant is the blend of people and trading technology which you describe in the report?

Similar to other highly-electronic asset classes, technology is not replacing humans in FX, but rather enhancing their trading workflows and helping them make better-informed decisions. The market has now largely shifted from voice execution to electronic execution as market participants sought faster, lower-cost, and more transparent execution methods. By some estimates electronic trading accounts for over 60% of all FX trading volumes, with some instrument types reaching an even higher percentage; for example spot FX, where over 70% of the market is electronic. FX traders are increasingly able to digitize and automate their workflows by leveraging technology across the entire trade life-cycle.

#### What are the benefits to FX of greater levels of automation, particularly in taking over labour intensive but mundane tasks?

Buy-side traders are becoming more sophisticated and are continuously seeking smarter ways to access liquidity and achieve operational efficiencies on the trading desk. Achieving greater levels of automation has been a key focus for many of our largest buy-side clients. Expected benefits of greater automation include allowing traders to focus their time on more value-add tasks or more complex trades (whether

larger in size, or for illiquid currencies). Furthermore, middle- and back-office functions benefit from greater automation of trade processing. While some of the most advanced buy-side firms may look to build fully automated trading systems in-house, for most players on the buy side, automation will be available to them via electronic trading platforms, such as FXall.

#### How can technology innovation help to improve the services offered to the buy side and their relationship with FX service providers?

For the first time in years, after a decade of unprecedented change in foreign exchange, the industry has finally reached a point where the bulk of regulatory implementation is complete, freeing up participants to concentrate on innovation and business growth. With both MiFID II and the FX Global Code now well on their way to achieving their objectives of enhancing conduct, fairness and transparency, there are now exciting opportunities for FX technology providers to advance into new areas, for example tapping algorithmic execution and transaction cost analysis (TCA) to achieve better results for end investors.

#### What is the future for the relationship between people and technology in light of the specific impact of Covid-19 on FX trading?

The Covid-19 crisis has really put our



Jill Sigelbaum

clients' FX trading continuity plans and technological readiness to the test. Starting in March, and particularly through April as market conditions deteriorated, FX trading professionals endured a tremendous amount of pressure on their trading operations, technology and infrastructure, as a majority of them shifted to working from home. In this context we've been working very closely with our clients, actively reaching out to them during their shift to virtual office environments to ensure we can understand their BCP arrangements and help them achieve practical and appropriate solutions where needed. Going forward, we expect buy-side traders will continue to favour platforms with the greatest breadth and depth of services, especially as desktop real estate remains limited. Another differentiator will be the ability of FX service providers to provide traders with the data and insights they need to navigate changing market conditions. In the wake of the Covid-19 crisis, we did just that, reacting quickly to make spread data from our RFQ platform directly available to clients.



# Evolving risk management and platform trends in the online trading industry

By Conor O'Driscoll, VP of OTC Platform at Devexperts



Conor O'Driscoll

Recent global events have led to a surge in the popularity of online trading, with many brokers reporting increased trading volumes. However, it's important to note that recent growth is riding an already well-established trend of interest in retail trading. From budding crypto enthusiasts and Millennial wealth management app users, to new generations of technical and fundamental analysts learning how to trade through YouTube and other social media platforms.

This increase in interest has taken place in parallel to financial markets becoming more accessible. The Great Financial Crisis of 2008, followed closely by the birth of the cryptocurrency industry, have also greatly contributed to improved general awareness of markets and how they work. Both have engendered a D.I.Y ethos where the public is now much more comfortable with the notion of taking control of their own finances and distributing their wealth across a variety of asset classes. A decade ago it was difficult to find a layperson who understood quantitative easing. Now it seems as though everyone has an opinion on the state of the global economy, central bank largesse, expanding balance sheets, and the role of gold and crypto in such a climate.

Veterans of the industry can congratulate themselves for having been well ahead of the curve. They

were among the first voices to spread the message of financial inclusion, accessibility and the retail trading industry as an avenue for taking control of your personal finances. They were also the ones who took the first steps to educating retail traders via the then burgeoning information technologies.

## CHANGING DEMANDS

But as the online trading industry continues to grow, so do the demands that traders place on the risk management capabilities of brokerages. Since the early 2000s, we have seen brokers go from offering single asset classes with B-book only risk management, through to multi-asset brokerage, A-book, and on to complex hybrid risk management strategies and business models. These developments have been informed by and have occurred in response to changing trader demands (in the 2010s traders began favouring STP and A-book business





models), as well as unforeseen market events (the sudden removal of the Swiss franc's peg to the euro in 2015 highlighted the vulnerabilities of A-book business models).

This evolution has taken place against a backdrop of slow-moving incumbents, the growth of agile third parties, and a broker-side culture of using innovative workarounds to push legacy platforms to perform many roles that they were not initially intended for. This reliance on workarounds has a great deal to do with the first-mover advantage of a lot of legacy platform providers, their brand recognition among traders and brokers alike, as well as a pervasive culture in the industry of "if it ain't broke, don't fix it."

The rise of 3rd Party vendors Anyone who has worked behind the scenes at a brokerage will tell you how quickly the default risk management tools offered by the legacy platform providers came to be stretched to their very limits. These tools were rudimentary at best and were eventually unable to handle the demands of growing client bases, increased numbers of servers and a rapidly evolving regulatory environment. This led to a cottage industry of third-party risk management tools and plugins favoured by dealers for simply and efficiently allowing them

to manage risk across their client bases and adding absent functionality. This involved everything from relatively simple dealer plugins for managing swaps and margin levels, to bridges offering STP trading on platforms that weren't intended for that specific business model.

Building a business on top of another platform comes with many pitfalls. And as with everything in the world of tech, it became something of a game of cat and mouse between platform providers and third-party vendors, whose agility and expertise in certain niche areas allowed them to rapidly develop solutions to extend the functionality of legacy platforms. In some ways, these third parties performed the role of research and development for the big platform providers, who were then able to produce their own official versions of some of these third-party solutions. If anything, this situation revealed the risk to both third parties and brokers of relying on souped-up platforms pushed beyond their original functionality and having entire segments of the industry depending on this situation being allowed to continue.

Parallel to the rise of third-party software solutions to be licensed and used in-house by brokerage dealing room staff,

we also saw the rise of third-party risk management services that took this aspect of the brokerage business entirely off the shoulders of smaller (particularly white label) brokerages. These services allowed new entrants the space to focus their energies on branding and on the growth of their customer bases while allowing risk management duties to be delegated to others.

**TURNKEY SOLUTIONS**

Another intriguing development in the space saw a new breed of Fintech businesses emerging to fill the growing gap between the large liquidity providers and the influx of smaller startup brokerages to the space. These businesses popularised terms such as "prime-of-prime," as well as "boutique," or "bespoke" liquidity provision services and risk management solutions. With the capitalisation requirements of the prime brokers, particularly in the wake of the 2008 crisis, being way out of reach for many smaller brokerages, these new boutique liquidity providers enabled smaller businesses to access liquidity as well as a host of other services including risk management, reporting and CRM suites.

Turnkey, end-to-end, brokerage-in-a-box solutions became popular. Every piece of a modern brokerage (or a pick 'n' mix selection of key components) could be purchased off-the-shelf, or alternatively customised to be compatible with a brokerage's existing infrastructure. What was particularly interesting about this trend, is that while it allowed many more entrants to set up their own brokerage businesses, these third-party vendors were largely unable to disrupt the legacy platform providers. The reason for this is debatable. Some were more experienced in building bridging solutions and CRM modules than front-facing trading platforms and thus found it difficult to compete with existing platforms. In other cases, the



Traders now have vastly different requirements compared to previous generations

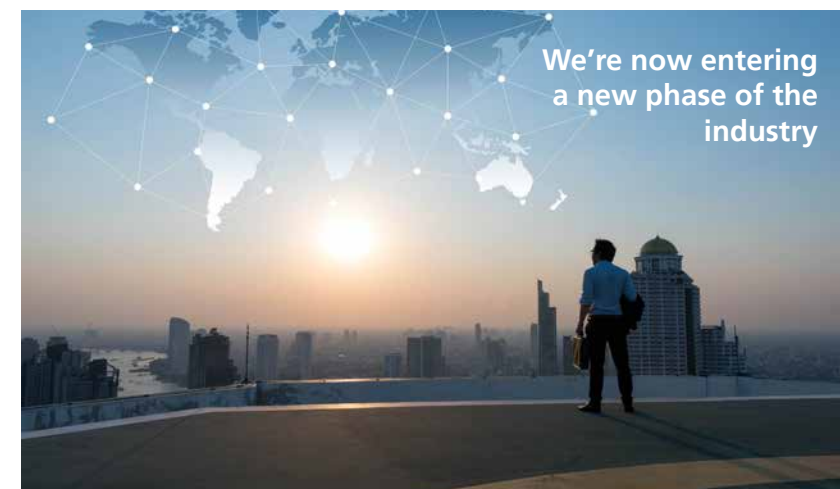
legacy platform providers were often still favoured for their brand recognition and market share.

**THE NEXT GENERATION**

We're now entering a new phase of the industry, one where brokerages are starting to look beyond the incumbents. This is partly because their client base is rapidly changing. The demographics have massively shifted in recent years towards Millennial traders and away from the Generation-Xers that the industry was so heavily dependant upon in previous decades. The Millennials have a lot going for them as a potential customer base. Aside from being a much larger group than their Gen-X predecessors, they are also entering their prime spending years and are now the generation with the largest spending power in history. Having been

the generation most affected by the previous crisis, they are also much more likely to take matters into their own hands and use the tools at their disposal to learn something as initially forbidding as how to trade.

This leaves the industry ripe for a shake-up as far as what the new platforms of choice ought to be. It's a very interesting time as we are seeing pressure for change building on both sides of the fence. On the back end, brokerages need much more in terms of the assets they can offer and the venues they can source liquidity from, the trades they are able to simultaneously process, the risk management strategies they are able to deploy and combine, as well as the customisability and ease of use of their reporting infrastructure in an ever-changing regulatory landscape.



On the front end, the prospective traders they are trying to attract have vastly different requirements compared to previous generations. What worked in the early 2000s cannot be patched-up, given a facelift and passed off today. The legacy platforms of our industry do not have the same brand cachet for this new generation of traders. This generation is accustomed to conducting every aspect of their lives online. They are the reason why UX development has been honed to a precise science over the past decade or so. They are not desktop users. They are cloud-based consumers. App development cannot be an afterthought if you hope to attract and retain them. They are also very quick to delete and move on when they find the interface they have recently downloaded wanting.

**TWO BIRDS, ONE STONE?**

What's so intriguing about the present moment is that it provides enough motivation for brokerages that wish to remain relevant in the years to come (particularly with an even more uncompromising Gen-Z coming of age), to opt for new platform providers whose products not only solve their pain points where risk management is concerned, but that can also provide the user experience that new traders are increasingly demanding.

It was inevitable that there would only be so far the industry could go by adding third-party functionality to old, tried and tested platforms. It's time to resolve the perennial back- and front-end issues that the industry has been plagued with by moving to next-generation trading platforms. Platforms that allow dealing staff to manage risk and order flow efficiently by segmenting traders on a group, instrument, or even client-by-client basis, using combinations of A, B and C-Book strategies that can be updated on the fly. All while offering the end trader an interface and user experience that looks and feels like something that belongs to the 2020s.



Building a business on top of another platform comes with many pitfalls





Alex Katsaros

The Forex/CFD industry has now reached a stage of maturity, making it challenging for startups and smaller firms to establish their presence. CFDs were originally introduced to retail traders in the late 1990s but became more popular with investors after 2000, due to the advances in electronic trading. We, therefore, had ample time to evaluate the feedback, understand the expectations of clients, and adopt products that address their needs

Cloud services have made it possible for brokerage startups to quickly launch in a month's time using PaaS - Platform as a Service - solutions. Alternatively, brokerages can choose to host their servers, or even build their own platforms. Depending on each startup's goals, financial commitment, and level of expertise, they still need to make important decisions regarding their infrastructure.

At TopFX, we have been assisting broker-newcomers to enter the industry by providing complete solutions that include liquidity, technology and mentoring. Having worked with a diverse clientele for almost a decade, we can understand what serves our clients best in terms of infrastructure

and always do our best to address their needs and possible challenges.

### SETTING UP THE INFRASTRUCTURE

Before launching a Forex brokerage, it's important to set up a robust infrastructure as this is the foundation of any brokerage business. The infrastructure of a CFD brokerage consists of the following components; Liquidity, Trading Platform, CRM (Customer Relationship Management system) & Onboarding and Payments. In this article, I will briefly explain each component, describe the challenges that entrepreneurs may encounter, and offer solutions on how to overcome them.

### LIQUIDITY

Liquidity is the stream of executable prices a brokerage receives in order to create the electronic CFD (contract for difference) which is "signed" with the client every time a trade is executed. The CFD is a derivative financial contract, for which the Brokerage adds or subtracts funds from their trader-clients depending on the value of the underlying asset at the time of the trades.

Even though most regulators allow brokerages to offer their own pricing, thus creating prices in a sense, in practice, brokers receive the prices of underlying assets from liquidity providers. For that reason, the choice of an LP is of paramount importance in addressing the points below:

**Quote Speed** - In electronic trading, prices often update more than once per second. Hence, it's necessary for the Liquidity Provider to be able to serve uninterrupted quoting without delays,

missed quotes or downtime.

**Execution Speed** - Many Forex brokerages send flow to their LPs, due to their business model or their risk management. For that reason, the execution speed, which is the speed that the LP will fill an order, is of major importance. Today, high-frequency trading clients often demand order execution in 50 milliseconds or less. TopFX fills orders by average at around 35 milliseconds. It took a lot of technical effort for us to be able to provide this kind of execution.

**Amount of Symbols** - Depending on your business model, and your client's demands, it's important to evaluate which markets Liquidity providers provide, and be sure that they meet your clients' expectations.

**Integration** - For older platforms like MT4, a software called a "bridge" is required to connect the MT4 server to your liquidity provider or aggregator. However, newer platforms like cTrader connect to the liquidity provider directly via FIX API. Proper integration ensures reliable execution and for that reason, brokers need to consider the best possible solutions available.

**Trading interface** - As mentioned earlier, a brokerage often needs to trade with the Liquidity Provider. Most of the time, the trading is automated from the integrations and settings of the system, but sometimes manual trading may also be required for risk management purposes. For this reason, it's important to make sure that the trading interface and reporting offered by the Liquidity provider is one your dealing desk can comfortably use and understand.

# How to overcome the technical challenges when launching a new Forex Broker

In this article, TopFX CEO Alex Katsaros talks about the technical challenges that new CFD brokers face when launching. TopFX is a Prime Brokerage, which has been offering liquidity solutions to startups and established brokers for nearly a decade. Drawing from his experience as the CEO of TopFX and previously as the Head of the Product Development team at Spotware Systems, Alex offers his in-depth insights into the topic.



## How to overcome the technical challenges when launching a new Forex Broker



A trading platform's features, customization, and configuration define a brokerage's products, quality and brand perception

**Cost** - The flexibility of the offering of your Liquidity Provider must match your needs and budget.

The larger a brokerage gets, the more apparent it is that one Liquidity Provider can't satisfy all demands. For example, clients may demand particular stocks, but the Liquidity Provider for those stocks has very unreliable execution and bad pricing for Forex and doesn't offer Cryptocurrencies at all. For that reason, Liquidity Providers are usually combined and aggregated when a brokerage grows. Startup brokerage companies shouldn't concern themselves with this issue, as it only arises at later stages. A good Forex / Metals / Energies / Cryptocurrencies executable feed is good enough to get things going.

### TRADING PLATFORM

The trading platform is the main product a brokerage offers to its clients. Its features, customization, and configuration define a brokerage's products, quality and brand perception. When choosing a platform, brokers need to address the following challenges:

**Features** - In a mature industry like ours, traders - especially high volume and professionals - demand sophisticated features like advanced charting, social features, reliable execution, user-friendly interface and the ability to use multiple trading

methods. Some brokers are looking to build their own platform and differentiate from the competition. Still, regardless of the available funding, the actual time that would take to build enough features to make your platform competitive is more than 5 years. Choosing a Platform as a Service option when starting a brokerage is then necessary for startup brokers who want to launch fast and cost-efficiently.

**Hosting** - Brokers can either choose to host the trading platform server on their premises or receive it as a service. The first option requires a higher budget, mainly due to maintenance costs. Besides increased cost, startup brokers do not have the expertise to deal with relevant problems, and as a result, the quality of execution may suffer.

**Accessibility** - Today's consumers expect to be using trading products on any of their devices while being connected concurrently. Cloud syncing of their work is regarded as a basic and necessary feature.

**Community** - Trading platforms need to support community backing. A lot of the Forex business is conducted via introducers and affiliates, and it's important to make sure that the countries and clients that the brokerage is targeting are comfortable with the platform of choice.

At TopFX, we offer cTrader to our broker clients, which supports six different trading methods: manual, automated, copy trading, portfolio management and via FIX. cTrader also has a user-friendly interface, fast execution trade servers with internal processing time of 3 ms, and comes hosted as a service with a cloud of servers all around the world. In line with traders' demands for cross-device trading, cTrader works optimally on all devices and operating systems.

### CRM

The Customer Relationship Management system is where your clients onboard, perform regulation required KYC (Know Your Customer), and deposit funds. From the brokerage's perspective, a CRM helps sales teams to keep track of the relationship that they build with clients, and enables the support team to provide their service by using a ticketing system. When choosing the right CRM for your brokerage, there are challenges and decisions that need to be addressed as with the rest of the components.

**Customization** - Brokers need to evaluate the customization level of the CRM system depending on the targeted jurisdictions, their regulation and business objectives. When the brokerage is starting up, a CRM with a client area that offers KYC onboarding is more than enough. However, when a brokerage grows, it may adopt multiple regulated jurisdictions, different business models, and different sales cultures and methods that often need to be reflected on the CRM.

**Hosting** - As with the rest of the products, inadequate hosting might result in delays when clients are trying to onboard, or high latency when support or back office is trying to access your client's database.

**Access Rights** - Everyone in this industry has heard or been approached by someone selling leads or databases



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Payments, or accepting deposits, is one of the most challenging issues when operating a Forex Brokerage

of customers - usually illegally. Any efficient CRM should offer robust security management and the right tools to control access rights so that exploiters are prevented from using your data.

Accessibility and Interface - It's important for the client area of the CRM to be straightforward, user-friendly, accessible on mobile phones and offered in the languages of the countries targeted by the brokerage. If brokers fail to choose such a CRM, the clients' onboarding funnel will be subpar, greatly affecting the number of conversions.

### PAYMENTS

Payments, or accepting deposits, is one of the most challenging issues when operating a Forex Brokerage, both legally and infrastructurally. It's very hard to open bank accounts and even harder for the banks to offer designated clients funds accounts. It's also next to impossible to accept credit card deposits without a ton of paperwork, legal opinions, and certifications, only to find that even if those challenges are overcome, every country has its own restrictions and preferred methods of depositing funds.

Every one of those methods requires an API integration with your CRM in order for transactions to be processed instantly and automatically. No trader is willing to

wait for funds to be deposited in their accounts anymore.

**Integrations** - Integrating each Payment Processor or Payment method in the CRM means that precious time will be wasted in development and testing, which will result in lost clients. In addition, the sheer amount of payment methods existing today makes this process counterproductive unless a development team is dedicated to payment integrations full time.

**Optimization** - Payment Service Providers, especially the unregulated ones, are often unreliable. Their service can generate random errors, go down at any point in time, and in some cases, their whole business goes down without warning, which results in losses of funds. It's important that the system has rules that optimize the payments flow, by having in place and suggesting alternative payment methods when a deposit doesn't go through, and providing adequate success reporting to optimize the deposit flow.

The standard solution chosen by brokerage startups is a Cashier, or PSP aggregation software, that solves the above problems. There are already many solutions in the market, and the challenge here is to make sure they are already integrated with the PSPs for the countries that the brokerage is aiming to target, and with the CRM.

### RECONCILIATIONS & REPORTING

When a brokerage has multiple platforms, multiple LPs, different trade servers, and many bank accounts and PSPs, it becomes extremely complex to monitor equities, profits and losses in real-time.

In addition to the above, recent changes in regulations have made reporting much more complicated than it used to be, with multiple different reports and deadlines. Startup brokerages are in for a surprise.

The infrastructure built must be able to support both the ability to reconcile your client's equities, your firm's equity, and the funds in PSPs and bank accounts daily, as well as generate the necessary reports to avoid missing deadlines of regulatory reporting.

Usually, startups bite the bullet and outsource the reporting due to its complexity, and choose to stay with one platform in order to easily do reconciliations and track their equity daily. Large brokerages often built reporting tools and integrated automated systems with the trade server's APIs and back-office APIs in order to generate a big part of the report with minimum human intervention.

### CONCLUSION

In conclusion, I would definitely recommend for startups and medium-sized brokerages to go for a tested, one-stop turnkey solution that addresses all of the above-mentioned issues, like the TopFX All-in-One Broker solution. In this way, brokers can launch fast and focus on growing their business, an endeavour that may well require its own infrastructure, depending on the amount of electronic marketing used. When then the business grows, and if deemed necessary, the brokerage can start evolving or replacing components accordingly.



# Gold outlook: will the current underperformance continue?

By Sergei Dehtiarov, Head of Brokerage, NBH Markets



Sergei Dehtiarov

Gold price reached a year-to-date high of \$1,768 on May 18. Since then, its performance has straggled behind the overall market. In the past month alone, the price has declined by about 0.6% while the S&P500 and Nasdaq 100 have gained by more than 8%. The US dollar index has declined by more than 3.97% in this period.

### WHY GOLD HAS LAGGED BEHIND THE MARKET

In May, many countries like Australia, New Zealand and Germany started to reopen their economies as the number of coronavirus cases dropped. In the United States, most states also started to unwind their stay-at-home orders.

At the same time, there was optimism about a coronavirus vaccine or therapy as hundreds of companies announced their progress. Among the leading companies developing the drugs are AstraZeneca, Gilead

Sciences and Moderna, among others.

Meanwhile, global central banks committed themselves to ultralow interest rates and more asset purchases. More recently, the European Central Bank (ECB) added to its planned asset purchases by another €600 billion in a bid to stabilise the eurozone. The Fed is still in an open-ended quantitative easing program while the Bank of England is expected to boost its QE in the upcoming meeting.

Additionally, countries are still announcing unprecedented stimulus packages. Recently, the European Commission launched an \$826 billion recovery fund. In the United States, Trump has called for an additional \$1 trillion package while Japan has also added more money to its stimulus. As a result of all this, investors have rushed to stocks and exited risky assets like gold and to some extent, Bitcoin. This is because owning gold is not as attractive as stocks as the

metal does not pay any dividends.

Demand for gold has also been declining in India, its second-biggest market. According to Bloomberg, gold imports by India declined by 99% for a second straight month in May. The country shipped about 1.3 tons from 105.8 tons in 2019. The decline in May came after the country shipped just 60 kilograms in April. That was the worst decline in at least a decade. Analysts expect the demand from India to remain low as the country goes through its worst economic slowdown in decades.

### LOOKING AHEAD

Gold is often viewed as a safe haven asset, which means that its price tends to do well when global risks are rising. Looking ahead, several events could incentivise investors to move back to gold.

First, North Korea announced that it was ending communication with the south. This was significant news as it shows relations between the





## Gold outlook: will the current underperformance continue?



The biggest risk is of a second wave of the coronavirus pandemic in the United States

two countries in the peninsula has deteriorated. Analysts believe that the reason for the escalation is that North Korea feels it is not getting any returns by talking to the south and the United States. For one, the crippling sanctions remain at a time when the country is facing its worst recession in decades.

Secondly, the United States and China are at loggerheads again. The new tensions started when the US president started blaming China for hiding details of the virus when it had detected it. Trump statements may be trying to deflect blame as the number of American casualties continued to increase. China rejected the accusation and highlighted the measures it took to alert the world about the virus.

The tensions increased two weeks ago when China bypassed Hong Kong's basic law and implemented its security

laws. This move caught the US off-guard and the US is assessing ways to retaliate against the country. These tensions are likely to continue in the coming weeks.

Thirdly, in an unprecedented move, the US announced that it was withdrawing about 9,000 troops from Germany. While the move seems benign, analysts believe that it could lead to more tensions between the European Union and the US. It could also increase tensions between the EU and Russia.

Finally, the biggest risk is of a second wave of the coronavirus pandemic in the United States. Analysts expect the number of cases to spike in the coming week because of the protests that have been going on. Most of these protests are happening in cities with high coronavirus cases like New

York and Los Angeles. Also, the protests have had thousands of people participate and a good number of the protesters were not wearing masks.

The risk of a new trade war between the US and China and increasing infections mean that the Federal Reserve will be in a tight spot. In the upcoming meeting, the bank is expected to leave rates unchanged and continue with the quantitative easing program. And according to the Wall Street Journal, the bank is considering treasury yield control. With this, the bank sets a target yield for US treasuries and intervenes to ensure that the yield remains the same.

If the risks increase, there is a possibility that the bank will turn to negative interest rates as some officials have suggested. These risks mean that the price of gold could be headed higher in the near term. In a recent note, Scott Miner, the respected CIO at Guggenheim Partners wrote:

"With the Fed going all-in on financing the government deficit, the US dollar could be at risk to negative speculation of its status as the dominant global reserve currency. Investing in gold may help offset this trend."

### GOLD TECHNICAL OUTLOOK

The longer-term gold chart shows that the price reached a high of \$1,926 in September 2011. The price then declined and reached a low of \$1053 in 2015. This price was along the 50% Fibonacci retracement level. Since then, gold has been attempting to regain its all-time high. While doing this, it has formed a pattern similar to the cup and handle. This means that the price may continue moving upwards as bulls attempt to retest the all-time high of \$1926.



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