

FX | ALGO NEWS

NEWS

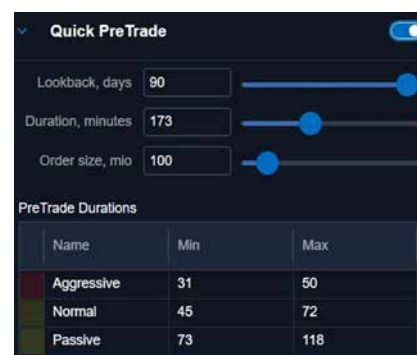
TOP STORIES

Deutsche Bank launches Quick Pre-Trade tool for algo clients

Deutsche Bank has added a new pre-trade visualisation tool called Quick Pre-Trade to its Market Colour app, addressing client demand for greater insights into their FX algo executions. The tool allows clients to see their execution risk on screen and provides additional guidance on how long it will take to execute their chosen algo. "Quick Pre-Trade is a powerful new tool which we have made available to all clients," says Vittorio Nuti, Global Head of LD and FX Algo Trading at Deutsche Bank. "Clients are interested in making more informed decisions around their algo use. We are providing the framework for them

to do that as intuitively as possible, basing their decisions on real historic data augmented with projected outcomes." Aled Basey, FX Workflow Solutions Director at Deutsche Bank, adds the new functionality was developed in response to growing client demand for cutting edge tools with actionable data insights, while also maintaining a seamless user experience. "This new feature helps our clients to make the optimal decisions about which algo strategy and parameters to select based on their primary objective. Guiding clients intuitively to the right tool for the job is a crucial step in delivering better

outcomes. As the name suggests, making this quick and easy to use was a priority, such that it can fit seamlessly into their Algo workflow" Basey says.



Societe Generale adds FX algos to Tradefeedr's pre-trade analytics

Societe Generale has partnered with Tradefeedr to offer an additional source of independent TCA and FX algo analytics to clients, with the algos now featuring in Tradefeedr's Pre-trade Algo Forecasting service. The move follows changes to the way the algo provider approached liquidity provision for



Loïc Bourgeois

its passive algos, reducing signalling risk and market impact despite increasingly challenging market liquidity conditions. Loïc Bourgeois, Head of EMEA eFIC Sales at Societe Generale, says, "Being able to offer our algo clients an additional source of fair and objective TCA to compare our algos performance against other bank algos is a massive game changer and helps us demonstrate how well we overcome these liquidity changes. We also increasingly see external TCA providers being used by clients to create their own algo wheels and support better algo allocation, whereas in the past they might have been using swap or spot market share to allocate their algo business and experienced disappointing results with this approach."

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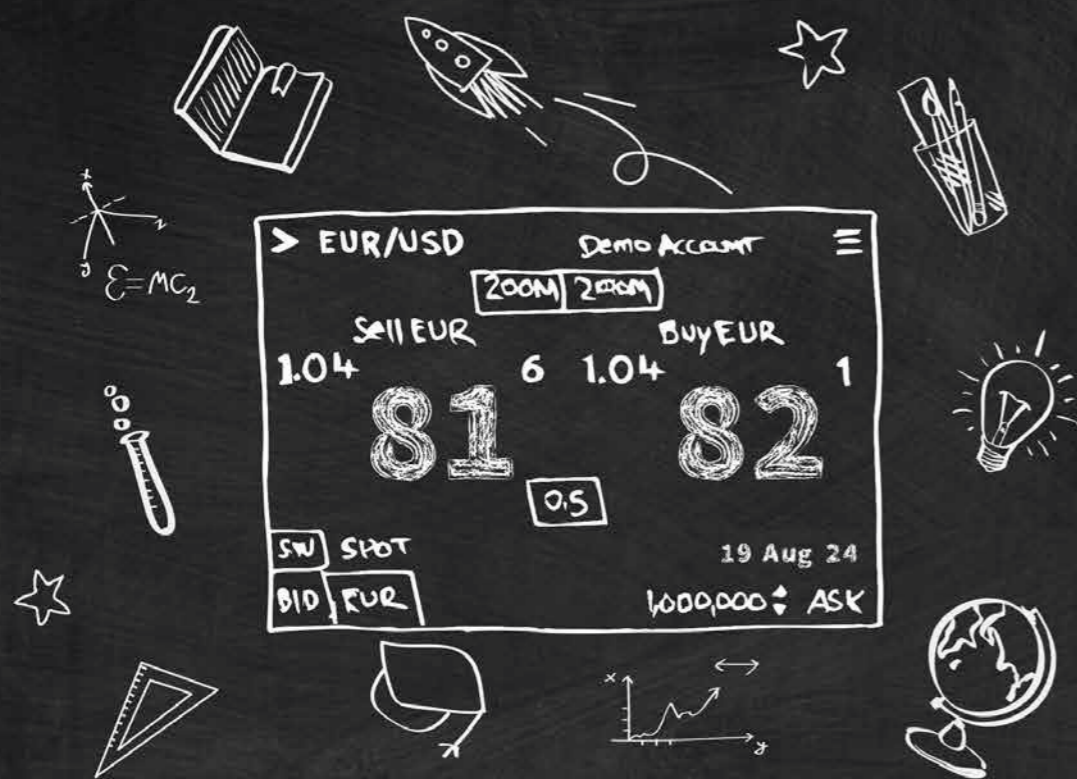
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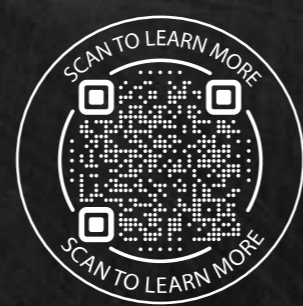
Links and websites of the month

Citi e for educationSM

This year, Citi's Markets business will donate \$6.4 million to 13 non-profit organizations that support the right to education for all children.



Since 2013, the eight-week campaign has donated more than \$80 million in aggregate and has helped non-profit organizations support over 2 million young people.



Algorithmic FX trading becoming more popular says New York Fed's Neal

In a speech made before the recent FX Market Structure Conference, Michelle Neal, the Head of the Federal Reserve Bank of New York's Markets Group, provided some of her personal views about the dynamics of FX trading, the types of entities that conduct FX transactions, and the impact that technological innovations, including algorithmic trading are having on the market. After talking a little about the critical role The New York Fed plays in helping to stabilise the economy and financial markets, Neal went on to outline three aspects of the evolving landscape: Shifting trading dynamics, greater participation of nonbank financial institutions and modernisation and innovation.



Michelle Neal

Neal started out by looking at the market's size and scope. "Trading activity in the FX market continues to increase, with about \$7.5 trillion in total daily turnover - equivalent to approximately one quarter of the annual U.S. gross domestic product. The dollar is on one leg of almost 90 percent of all spot and derivative FX transactions, reflecting its preeminent global role. About half of aggregate daily volume is comprised of FX swaps, and just over a quarter is in FX spot transactions. Approximately 40 percent of total FX transactions take place in the U.K., and another 20 percent of trades occur here in the U.S. In addition, certain jurisdictions within Asia, such as Singapore and Hong Kong, are seeing significant growth in trading volumes," she said. Although noting that FX trading occurs within an increasingly decentralised ecosystem Neal pointed out that "the primary platforms remain a significant source of price discovery, especially during times of elevated volatility. The primary platforms are also important in generating the rates that serve as reference to price many derivative contracts."

She then went on to talk about how the FX landscape has evolved from being mostly bank-dominated to one where nonbank financial institutions are playing a more prominent role.

"Although NBFIs are not expected to supplant traditional banks anytime soon, an open question is whether their growth should be viewed as a challenge for bank dealer or as a complement to them", says Neal. "Key watch points related to the growing role of NBFIs include their potential impact on liquidity conditions, price discovery, and market fragmentation."

Before concluding her remarks by outlining how The New York Fed engages with market participants and other central

banks and why this is a critical part of its job, Neal stressed how "technological innovations are driving the biggest and most impactful changes in the market. The electronification of the market has affected how trading occurs. For example, transactions made over the phone have become less common, while algorithmic trading has become more popular says Neal. This has reduced average trade sizes, since large orders are now segmented into numerous smaller transactions. Artificial intelligence has also made automated trading strategies more sophisticated. There is also a perception of increased bouts of sudden pullbacks in liquidity, exacerbating price movements that can lead to flash events, a phenomenon that has occurred in major currency pairs in recent years. Market participants are also relying more on technology to reduce their market impact which," says Neal, "is making it easier for certain dealers to internalise more flow by offsetting buy and sell orders and for buy-side firms to utilize more sophisticated execution algorithms. Algorithms and liquidity aggregator platforms also help connect the different lakes via "rivers" that support price discovery."

"While innovation occurs in every financial market, the FX market is typically at the forefront of developments and potentially due to a robust liquidity environment, it tends to be a testing ground for modernisation," stated Neal.

The full speech is available here: <https://www.newyorkfed.org/newsevents/speeches/2024/nea241119>

State Street unveils new functionality for its FLOAT algo

For already busy clients, monitoring an algo execution during periods of volatility or using a passive algo strategy effectively during fast moving markets presents an additional challenge. Mary Leung, Global Head of Client Algos at State Street, explains why State Street has added Aim to Complete and Implementation Shortfall functionality to its FLOAT algo as a unique solution to the growing user demand for greater flexibility and control when executing with an algo.



Mary Leung

in to play if the Float algo notional fill speed is falling behind the underlying curve schedule due to parameter settings /liquidity market conditions and/or limit price.

The IS parameter allows Float to operate with a dynamic implementation shortfall curve which aims to minimize the mean-variance of implementation shortfall cost of the order (i.e. reduce slippage from the arrival price). We leverage the efficient frontier concept when we construct the IS curves - a concept first pioneered in our portfolio algo released last year. Efficient frontier establishes tradeoffs between average expected cost of slippage and standard deviation. This is based on different risk aversion profiles which can be expressed by the client by selecting different execution styles on our Float algo. The IS curve adaptively recalculates when order parameters are amended or when the algo strategy falls behind IS curve projection (i.e. limit price impedes algo fill speed).

What needs do the new ATC and IS parameters fill for your client base?

Our client base continues to look for ways to minimize information leakage and reduce trading costs. At the same time, resource constraints have led

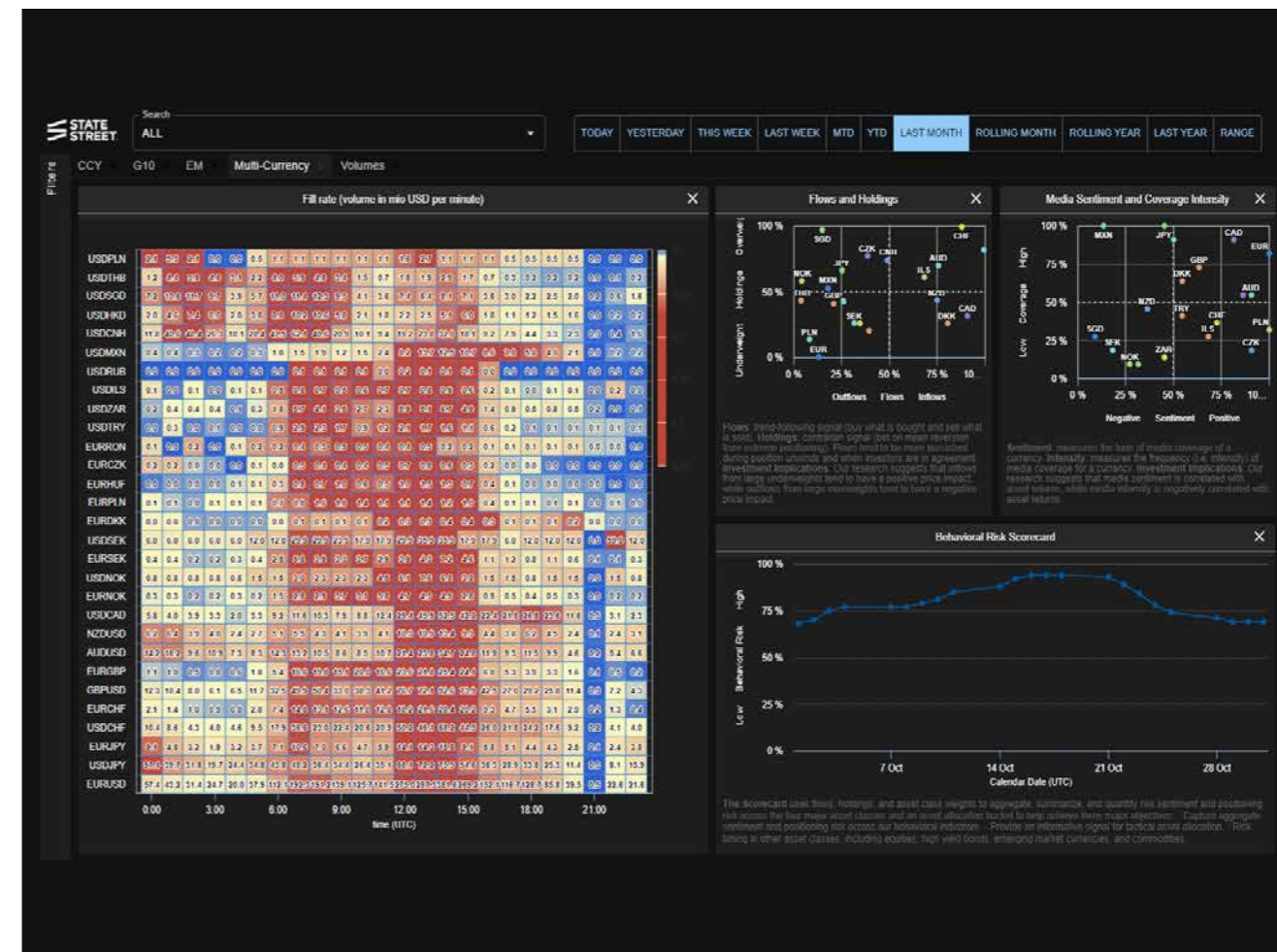
execution traders to take on more responsibilities in the "multi-asset" execution space. Within this context our clients are asking for an algo strategy that has the benefits of the State Street Float strategy but also assures completion in busy markets. This is where Aim to Complete becomes a helpful tool. Traders may access the opportunistic and passive nature within Float but also have the assurance that on a busy trading day where they can become distracted, their risk will still be covered. They can take comfort knowing the Float-ATC will attempt to finish the execution based on their desired end time.

One of the challenges when using a passive algo strategy is how to engage with liquidity when markets are fast moving or trending away from you. If you are too passive and miss out on 5-6 bps of price action it impacts your slippage from arrival, and risk transfer benchmarks. Our Implementation Shortfall parameter was designed to be more proactive and engage with liquidity through an IS curve derived from an efficient frontier which varies from our standard FLOAT algo interaction. The IS parameter targets the arrival price and has the ability to engage with liquidity a bit quicker than the normal Float algo based on the underlying IS curves. In fast moving

Can you please share more details about the new algo functionality you recently introduced?

We have recently rolled out two enhancements within our most popular FX algo strategy - FLOAT. Clients can now run a Float algo with State Street and access Aim to Complete (ATC) and Implementation Shortfall (IS) functionality through both their EMS and VectorFX algo hub.

The ATC parameter within Float monitors the progress of the order against an underlying TWAP (default) or VWAP/IS curve to ensure completion by desired end time. ATC will only come



Liquidity Dashboard

or trending markets this should aid execution performance and clients should see better slippage against "arrival price" benchmarks.

As opposed to other providers where IS or POV (Percentage of Volume) are separate algos strategies we chose to include IS as a parameter on Float. With this set-up clients receive all the benefits of Float with the added ability to overlay IS and POV constraints on the strategy. This helps us keep our list of strategies succinct while allowing flexibility to switch between FLOAT/IS/POV easily. This has been key feedback from our clients.

Has there been any changes in demand for data or analytics and what can you do to meet this demand?

Yes, clients have been particularly interested in volume metrics this year. In a fractured FX market where liquidity is decentralized liquidity profiles, liquidity regimes and liquidity forecasts

can help lay a framework for clients to know when, where, and how to clear FX risk. These metrics can also be used to evaluate liquidity conditions through comparison of different timeframes or events. We have been generating these metrics in our internal "Liquidity Dashboard" since 2022 and it is something we often discuss with clients while they are evaluating how and when to execute a trade. These volume metrics can be particularly informative during market events, or in EM pairs where liquidity may track closely with local market hours or in low liquidity hours for G-10 pairs. Due to the demand for these metrics, we are working to integrate our liquidity dashboard into our VectorFX SDP algo hub where clients can access it directly at their fingertips.

Have you seen any change in demand for internalisation?

Internalisation is always at the forefront of our clients' minds, and

it is something we constantly look to improve in order to minimize market footprint by harnessing the value of our franchise liquidity. Our peer-to-peer algo matching engine, Interest Match, was enhanced in Q1 2024 with the introduction of Skew Match. A Skew Match will occur when State Street fills all or a portion of an open algorithm order with liquidity from an opposite direction skewed streaming price at, or better than the mid-price.

With the addition of Skew Match, our peer-to-peer Interest Match feature within the algo suite is now composed of four distinct ways to increase internalisation. The fills in each of these internalization categories are shown as separate venues in our TCA for full transparency to our clients. Results of Skew Match have been excellent. It allows us to clear algo risk in lower liquidity regimes at a faster pace, lowers signalling and market impact, increases internalisation and thus improves overall algo performance.

Citi e for education: Citi's major annual charity event features CitiFX Algo Day for the first time

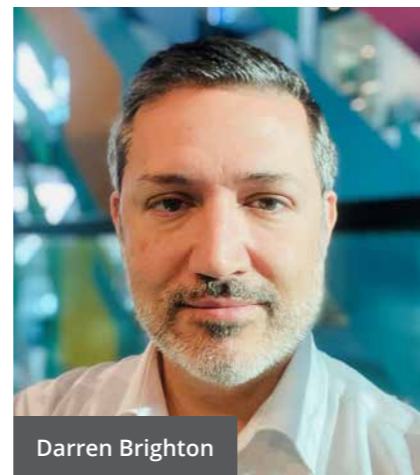
Now in its 12th year, Citi's annual 'e for education' campaign is the bank's largest continuous charity campaign, having raised over \$80 million and benefiting 2 million underprivileged children and 16,000 schools. This year, the initiative featured a dedicated CitiFX Algo Day for the first time, where algo volumes traded were 3x higher than the monthly average¹. The day enabled Citi to highlight the functionality and capabilities of their algo suite, while providing algo clients with a focused opportunity to be a part of the fundraising activities for the range of worthy causes supported by the bank.

As one of the world's largest banks in terms of footprint, it was a natural evolution for Citi to start partnering with non-profits that operate in the countries that it has a local presence in, says Darren Brighton, Global Head of Digital FX Sales at Citi. He explains that the original concept of the e for education initiative was driven by the FX

team initially and born out of the desire to support global non-profits with a focus on supporting the education of underprivileged children and young people. Education is the great equalizer. Education equity and access to quality education leads to economic growth and supports social progress and we believe in the power of education to help young people unleash their talent. "This was an area that both employees and management alike felt very passionate about," Brighton adds. "Our team members give up their free time and put huge effort into running the campaign. We wanted a campaign that would help lift the profile of the non-profits and one which would allow our clients to directly engage and show their support. By focusing our fundraising efforts on the electronic channels where clients have control, we believe this provides the most direct mechanism for clients to participate."

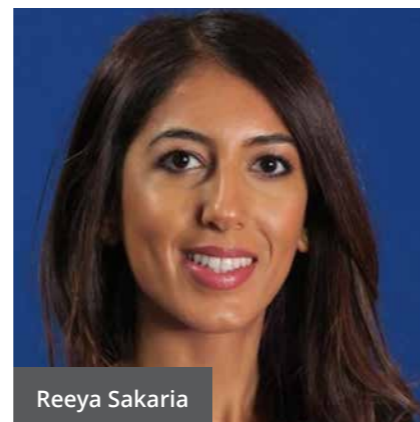
Now an annual campaign, e for education supports 13 non-profits globally, all with a focus on improving basic literacy, life skills or access to higher education for children and young people, Brighton explains. In addition, the campaign has expanded from initially being an FX initiative to now running across our Markets businesses. "This year we raised in excess of \$6.4 million dollars, bringing the total raised across all our campaigns to over \$80 million in aggregate since 2013," Brighton adds.

This year, Citi hosted its first ever Algo Day, where Citi donated the algo fee in addition to \$5 for every million traded to e4e non-profits. The day

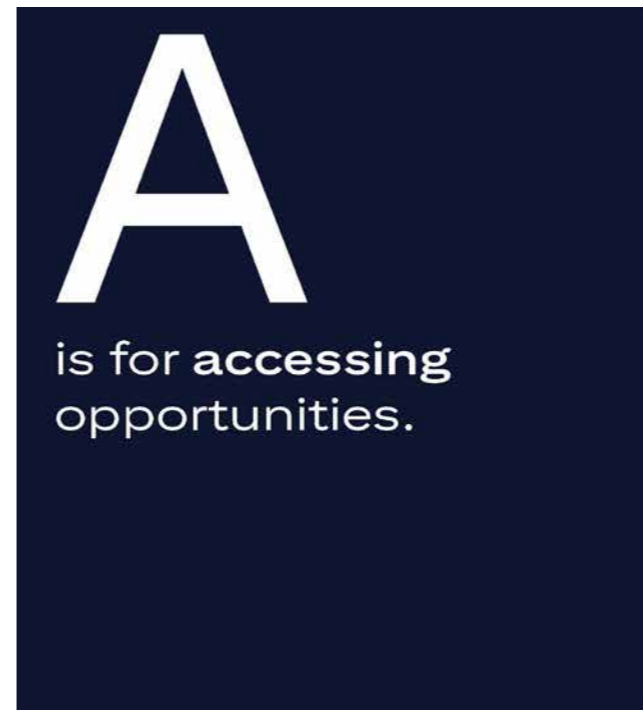


Darren Brighton

provided Citi's FX sales and trading teams with an opportunity to discuss the work of the e4e campaign with clients, whilst also enabling them to showcase the performance of the recent enhancements to their next generation suite of dynamic algo's. "For example, Tradefeed's pre-trade tool has shown that Citi's flagship arrival strategy outperforms the street average significantly, while clients can view peer analysis from Best-X, which are both tools for helping them making decisions



Reeya Sakaria



around their algo execution allocations," says James McGuigan, FX Algo Product Manager at Citi.

During our Algo Day, "the entire team were busy interacting with clients on client chatrooms assisting them with their in-flight algo executions, while also keeping them updated on how much they have helped contribute so far" says Reeya Sakaria, Director, Digital FX Sales at Citi. James adds: "we also had general conversations around our most recent product developments during the campaign and were able to share key metrics of particular interest to our clients, such as our internalisation rates.

The team has had many productive discussions around what our liquidity seeking capabilities are like now vs in terms of venues that we can access and new features that we are deploying. The day provided the team with the opportunity to have informative discussions with our clients framed around this worthy cause - and in turn we found clients were happy to engage in discussions around the new suite and toolsets."

Another way in which Citi engages with their clients throughout the e for education campaign is through events hosted in partnership with the non-profit organisations. E for education's 13 non-profit organisations mirror Citi's global presence across 72 geographies,

says Sakaria. "Our engagement with these non-profit organisations is integral to the e for education campaign itself, allowing Citi to positively engage with the communities in which we have a local business presence," she adds.

Citi has also hosted around 30 events this year alone, across multiple

jurisdictions, ranging from visiting local schools to inviting students to Citi offices to give them an insight into sales and trading through speaker sessions, networking events and trading day simulations.

An example of this would be an event Citi hosted in South Africa

	Citi e for education non-profits supported		



F is for *finding the joy in learning*

in partnership with EMpower and Teach the Nation, non-profits that aim to empower children from under resourced schools to become future leaders in their communities. "Many of the students who take part in these events have never had any exposure to the financial services or to the career opportunities available in our industry," Sakaria says.

"One of the reasons why we are so passionate about e for education is because it enables students to access a network of people that they would not typically have any exposure to. If students can relate to someone –

perhaps because they see someone that looks like them or has had a similar background - then opportunities can feel more tangible and within their reach. We have seen that this can really inspire them and open their eyes to what is possible, for them to think yes, I could be like that person and have that career."

Another event to highlight this year was in partnership with the global youth charity Ditch the Label, which focuses on helping young people overcome issues such as mental health or identity, Sakaria explains. This saw Citi clients invited to join to increase awareness and educate the parents of children who might be

struggling with these issues, all with the support and expertise of the non-profit.

"Across the entire campaign clients have been very engaged, firstly by learning that their flow is being executed with a market leading FX and algo provider, and secondly, in knowing that this flow is making a real and positive difference on the lives of young people across the world" says Sakaria. She adds "e for education helps Citi gain share of mind with our clients, whilst also being powerful and rewarding experience for them and the employees alike."

Note: ¹monthly average algo volumes calculated using Sept and Oct 2024 ADV

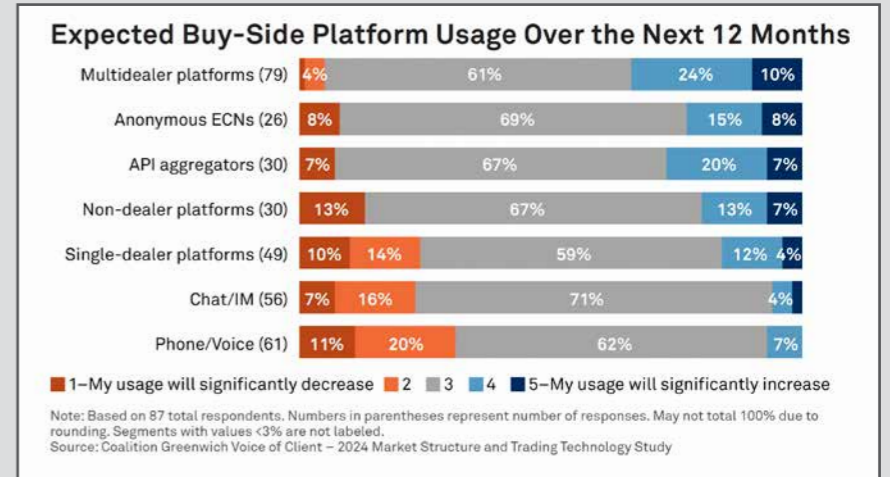


Geographic impact of Citi e for educationSM

Why the buy side chooses their FX dealers and trading venues

The goal of any buy-side trader is to achieve best execution. For FX traders, transaction cost analysis (TCA) and other similar tools are making it easier to measure not only the buy-side trader's progress on the mission to achieve best ex, but how well each dealer counterparty performs.

To better understand how end users view the capabilities of their intermediaries and the overall health of their dealer relationships, Coalition Greenwich conducted phone interviews with 342 buy-side FX traders globally between Q2 and Q4 2023. These interviews covered a range of topics, including but not limited to traders' thoughts on triggers that could put a relationship with one of their dealers at risk and the reasons to use (or not use) multidealer platforms (MDPs). In addition, Coalition Greenwich interviewed 87 FX traders across North America, Europe and MENA in Q2 2024 to ascertain their views on evolving use of execution venues.



overall and supports their growing focus on best ex. According to Coalition Greenwich research, end users such as asset managers, asset owners and corporations reference MDPs as the platform they will use more frequently over the next 12 months.

A NOTE ON SDPS

SDPs will remain an important part of the FX trading ecosystem, and the feedback on MDPs was primarily about the MDPs themselves. However, some of the discussion was about

MDPs compared to SDPs. There are times when respondents felt using an SDP was beneficial; for example, one person uses them "for Algo spot outright execution." Otherwise, points of differentiation benefiting MDPs varied from the tactical (single password to remember) to the more strategic (difficulty of integrating multiple platforms into the workflow).

More information about the report can be found here: <https://www.greenwich.com/market-structure-technology/why-buy-side-chooses-their-fx-dealers-and-trading-venues>

BUY SIDE PRIORITIES: PRICING IS THE DRIVER

When a buy-side desk evaluates its panel of dealers, there are multiple reasons why it may redirect its flow from one to another. The Coalition Greenwich research confirmed the buy side's essential needs—pricing and quality of institutional coverage

BUY SIDE VIEWS ABOUT MDPs

The common thread connecting the FX discussion on dealers and multidealer platforms is competition—end users want their dealers in competition with each other in order to both receive favorable pricing on individual trades and reduce dependence on an individual counterparty. Increased use of MDPs by the buy side is driving electronic trading



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The role of algo provider client coverage in helping institutional clients achieve optimal outcomes

By Rory O'Brien, Director, Hilltop Walk Consulting.



Rory O'Brien

In today's fast-paced financial markets, institutional investors such as asset managers, hedge funds, and other large firms have increasingly turned to algorithmic trading for precision and efficiency in execution. To maximise the effectiveness of trading via algo, many

firms rely on dedicated client coverage teams provided by algo providers. These coverage teams play a vital role in maximizing the performance and adaptability of trading algorithms, ensuring that clients achieve their specific objectives. By leveraging a combination of data-driven insights, client-specific customisations, and ongoing communication, algo provider client coverage helps institutional clients reach optimal trading outcomes.

WHO PROVIDES ALGO CLIENT COVERAGE?

Algo client coverage is primarily handled by specialists who are deeply familiar with both the mechanics of algorithms and the specific requirements of client trading. In many organisations, these roles may be filled by electronic sales (e-sales) teams or algo product specialists who possess an advanced understanding of algorithmic strategy and execution.

Though voice sales teams can also be involved, specialist coverage remains the preferred approach given the detailed, specific nature of the role. For this article, the focus is on institutional asset managers. Overwhelmingly, these clients are using algos provided by their existing banking partners. There are multiple reasons for this preference, including ease of onboarding, access to established credit limits, the sheer choice of algos available and existing well-developed relationships. Some clients do also opt for non-bank providers, attracted by cutting-edge technology and access to additional liquidity pools that these alternative providers may offer.

HOW ALGO CLIENT COVERAGE SUPPORTS INSTITUTIONAL CLIENTS

The choice of algorithm very much depends on the user and their intended goal - It may well be a mixture of past experiences with specific algorithms and the influence of some provider relationships. Many algos are labelled as having similar strategies, but the nuances of each provider's execution can significantly affect performance. A history of past algo performance may often be the best measure of how an algo will perform, and coverage teams are crucial in guiding clients through this learning process, offering recommendations and insights based on both data and practical knowledge.

Client-algo provider relationships vary significantly, based on factors such as client size, the depth of the relationship, and the client's appetite for collaboration. Many clients are happy to leverage the algo providers'

resources and expertise in this area. This may make them comfortable to choose to use off-the-shelf algo products, while others prefer a more customised experience. In these cases, the provider's client coverage team works closely with the client to fine-tune preferences such as liquidity curation, algo behaviour, and risk tolerance.

Client support typically occurs in three stages: pre-trade, in-flight, and post-trade.

PRE-TRADE COVERAGE

Pre-trade analysis has become increasingly popular and is now a key part of algo provider coverage. Many algo providers have developed proprietary pre-trade analytics tools to help clients anticipate execution specifics such as estimated completion time, projected slippage, and potential market impact. These insights allow clients to select the best algo for their objectives and adjust parameters to reduce costs and manage risks effectively.

Tailoring algos to client needs

Algo providers can customise trading strategies based on the client's unique needs, thanks to the following practices:

- **Strategy Selection:** After understanding the client's goals, the coverage team can then recommend specific strategies, such as focusing on volume or timing, or using a liquidity-seeking algo to capture the best possible price.
- **Algo Optimization:** The coverage team can suggest adjustments to parameters like aggression levels, timing, and price limits to ensure the chosen strategy aligns with the client's priorities.

This pre-trade refinement ensures that the selected algorithm meets the client's goals with the greatest possible precision.

IN-FLIGHT COVERAGE

Once the trade is underway, algo client coverage shifts focus to providing real-time insights and support to ensure the trade progresses as anticipated. At its most basic level, clients wish to know if something has gone wrong.



The choice of algorithm very much depends on the user and their intended goal

Algo providers have various methods of delivering in-flight updates, which help clients adjust parameters as market conditions change:

- **Chatrooms:** Most clients expect a certain level of information segregation between the electronic and voice teams during an algorithmic trade, which is often managed through a separate client chatroom led by the e-sales team. Some algo providers take this segregation even further with physical separations in coverage or technological barriers between algo trades and other trading flows to maintain confidentiality and security.
- **Provider Portals:** Some algo providers give clients access to real-time execution updates through proprietary portals.

- **Bloomberg Integration:** Certain providers offer integration with Bloomberg terminals, allowing clients to monitor algo performance within their existing technology ecosystem.

- **Chatbots:** Chatbot technology is increasingly used to provide real-time updates and support during a trade. The e-sales team remains available via chat to suggest adjustments, track parameter changes, and keep clients informed on liquidity conditions.

This in-flight coverage allows clients to make timely decisions, refine their algo settings in response to market dynamics, and maximize their execution outcomes.

POST-TRADE COVERAGE

Post-trade analysis is a well-established component of algo provider client



Algo client coverage is primarily handled by specialists who are deeply familiar with both the mechanics of algorithms and the specific requirements of client trading



Client-algo provider relationships vary significantly, based on factors such as client size, the depth of the relationship, and the client's appetite for collaboration



Algo client coverage has significantly evolved, due to advancements in analytics and TCA tools from both algo providers and independent TCA firms

coverage, supported by both bank-provided and independent TCA solutions. Through post-trade TCA, client coverage teams can review key performance metrics with the client and assess how well the algo met the execution goals. This retrospective view not only helps evaluate the algo's performance but also provides insights that influence future trading strategies.

- **Provider and Independent TCA Comparison:** Clients often prefer having access to both provider-specific and independent TCA results, as this allows them to benchmark algo performance across multiple providers and ensure transparency.
- **Custom TCA Metrics:** Some clients also develop custom internal TCA metrics tailored to specific performance indicators, providing a further layer of precision in assessing algo outcomes.

Post-trade analysis is an interactive process whereby coverage teams review the results with the client, suggesting potential changes for the future and discussing how different parameter choices impacted the trade's outcome. Over time, this iterative feedback helps clients develop a more refined approach to algo selection and parameter tuning.

CHALLENGES

Balancing standardization and

customisation - Institutional clients have varied algo needs, ranging from off-the-shelf solutions to highly customized strategies. The same applies to coverage itself whether clients expect a high-touch or lower-touch model. Coverage teams must strike a balance between scalability and personalization. Standardized approaches are cost-effective but may not fully address unique client requirements, while customization demands significant resources and close collaboration, which can strain the capacity of coverage teams. In a world of finite human resources, the solution to scalability inevitably points to further smart electronic coverage in some form.

CONCLUSION

The role of algo provider client coverage is indispensable in enabling institutional clients to achieve their best outcomes in algorithmic trading. Coverage teams can add value at every stage—pre-trade, in-flight, and post-trade—by offering tailored insights, timely support, and comprehensive on-going post-trade analysis. These services not only help clients navigate the complexities of algorithmic trading but also ensure that each algo strategy aligns with the client's specific objectives. In recent years, algo client coverage has significantly evolved, due to advancements in analytics and TCA tools from both algo providers and independent TCA firms. These improvements have made it easier

to deliver meaningful analytics in an accessible way that are easily understood by clients, creating a feedback loop where coverage teams serve as an essential bridge between clients and product development teams. This loop continuously refines product behaviour, enhancing the overall trading experience and future performance expectations. The latest advances in analytics most often grab the spotlight, but the strength of the client-algo provider relationship remains fundamental. Clients who choose to or have the ability to collaborate deeply with their algo providers, are able to not only to influence provider algo strategy and TCA tools, but also to potentially influence the broader direction of product development from an early stage.

The combination of innovative analytics, customisable algo strategies, and strong client-provider relationships makes algo provider client coverage a powerful force in helping institutional clients achieve their trading objectives with precision and efficiency.

Navigating the complexities of both FX Algo usage and electronic product coverage can be challenging. Hilltop Walk Consulting works collaboratively with buy and sell-side clients, turning complex challenges into opportunities for enhanced performance and informed decision-making across financial markets.

The mystery of the missing liquidity

By Dr Ralf Donner, Head of Marquee Execution Solutions at Goldman Sachs



Ralf Donner

The FX liquidity landscape is changing. In G10 markets especially, there is a definite decade-long trend towards lower so-called primary market volumes as a fraction of total lit liquidity, to the extent that it calls the name 'primary' into question for a number of key currency pairs. Additionally, as these are lit venues, the signalling risk of posting on primary remains largely unchanged, as the probability of a fill goes down. This may lead to a feedback loop of decreasing usage based on markouts. With algo volumes on the increase yet again over past quarters, as evidenced by surveys to which banks contribute their own volume data in order to receive data on the market as a whole, who is supplying the missing liquidity?

SECONDARY MARKETS

Could it be the ECNs or so-called secondary markets? Many are cagey about supplying volume data, but

by a combination of looking at the ones that do and studying outcomes of algos that are 'democratic' about sourcing liquidity across ECNs, it would appear that most ECNs have seen stable volumes over the past couple of years rather than any significant increases.

Additionally, several of the ECNs are known for attracting high-frequency market participants and maintaining last-look policies that serve on the one hand to tighten orderbooks but come at the potential expense of fill ratio on the other. These characteristics don't necessarily invite an algo SOR to send vastly greater flows.

DARK POOLS

Could it be dark pools of liquidity such as midbooks, where banks can net off against each other? First, only a few of these admit algo flows, and second, overuse results in penalties applied directly to the fill. There is no evidence to suggest that algos can be significantly more liberal in their use without incurring these offsets.

FUTURES MARKETS

What about futures markets? CME volumes in G10 are public information, and aggregating volumes in the majors suggests stable volumes or even a slight downturn as a percentage of FX total in recent years. In any case, the use of futures in spot algos comes with the additional cost of managing the basis risk between the instruments, so even if the trend had been upwards, we would probably not see much greater usage in spot execution.

TWO DIRECTIONS

In our view, the missing volume has gone in two directions. One is greater use of bespoke venues. Setting up one's own pool of liquidity offers the ability to tailor the pool to specific liquidity needs, and comes with a satisfying level of KYC.

The algo on the taker side maintains the smart order logic used with conventional liquidity, and so continues to adapt to changing market conditions and be intelligent about when to use what liquidity.

The other direction of travel is towards more intelligent internalisation, supplementing traditional internal orderbook matching and e-book transfer with franchise skews. Triggering a skew permits matching with other institutional investors. Deploying techniques that bank e-books already use to hedge risk allows an algo to profit from a very thorough analysis on skew safety that systematic market-making desks have already performed.

THE RESULT

If true, the result of all this of course is even less market visibility on FX volumes. Having gradually moved away from marking the calendar 3 years ahead for the hotly anticipated BIS Survey towards harvesting external market data, clients may find in future that FX volumes are a function of the liquidity provider. Tools such as Goldman Sachs' Marquee Marketview will then be essential for traders to understand liquidity conditions, because the information will simply not be available elsewhere.



Nomura shares drivers behind FX algo volume growth

The growth in algo adoption had been identified as an important shift in currency trading by Nomura, with the upturn in algo volumes having been cited as a long term trend fuelled by client demand for a way to navigate the increasingly fragmented FX liquidity landscape while reducing costs and market impact.

As a result, Nomura reports that it has seen average client FX algo volumes quadruple since January 2023, a substantial increase led by increased algo use from real money clients including pension funds and asset managers. The bank also cites survey findings published by Coalition Greenwich which revealed that 69% of respondents believe algo use in FX will increase in the future.

According to Antony Foster, Head of G-10 Spot Trading for EMEA at Nomura, this trend is being driven by relatively calmer FX markets over the past year, which has helped negate the need for clients to call a broker for market colour. At the same time, the FX market has seen a compression in spreads due to

competition among banks and market-makers, with Foster also highlighting the fragmentation in liquidity as dozens of electronic platforms host currency trading as an additional factor behind the growth in algo execution. "As markets have become more electronic and fragmented, clients want execution options and analysis to measure their flow rather than charging into the market," he adds.

REDUCED MARKET IMPACT

Ben Robson, EMEA Head of e-FX Sales at Nomura, agrees and adds: "Client conversation around algo usage has evolved over the last decade. It's no longer seen as a tool to replace traders on the desk but instead augment the set of options

around execution and currently it is far more focused on data and the decisions being driven by pre, intra and post trade transaction costs".

Furthermore, Foster and Robson note that algo trading has increased liquidity by providing continuous bid and offer quotes, making it easier for traders to enter and exit positions. However, they warn that this liquidity can be 'quite fleeting' as algorithms can quickly withdraw from the market during periods of volatility. The fragmentation of liquidity across electronic platforms, such as EBS, means a greater need for algos, which smooth out the effects of larger sized orders, they add.

Foster explains that the biggest segment of Nomura's algo users are asset managers and pension funds, with large spot flow to transact who opportunistically taking advantage of market-moving events.

"At times they deploy aggressive algos as these strategies seek out deep liquidity across venues while exploring the likelihood of rejection before intelligently sourcing the right liquidity," he adds.

With spreads continuing to compress even in very large sizes and banks streaming in bigger notional, there is



Antony Foster

a huge value in having a conversation with an expert around FX execution, says Robson. He notes that although some banks offer a pre-trade TCA tool, others - including Nomura - prefer to offer a more bespoke service depending on the particular trade.

"Our USP is to offer a tailored response rather than just provide data and leave the client to make decisions without speaking to experts. If volatility kicks off and markets become more complex, clients should utilise the skill of traders using these products daily to inform their decisions," says Robson.

DRIVING INNOVATION AND GROWTH

The challenge for banks is to take the data that algos are generating and display it to traders on the desk who are deciding what strategies to use, say Foster and Robson. They add that by rapidly incorporating new information into prices, algo trading has contributed to more efficient markets, narrowing bid-ask spreads and increasing the speed of price discovery.

The rise of algo trading has also intensified competition among market participants, driving innovation, with firms investing heavily in developing cutting edge algorithms and technology to gain a competitive edge, leading to continuous improvements in trading strategies and market infrastructure, they observe.

"The growth in algo trading across FX markets represents a significant shift in how currency trading is conducted, and it will only get more sophisticated in future," says Foster. However, one area of challenge for algos concerns regulatory scrutiny as authorities increase focus on ensuring automated trading systems operate fairly, although according to Foster and Robson, in the long run this will ultimately benefit the development and maturity of the market.



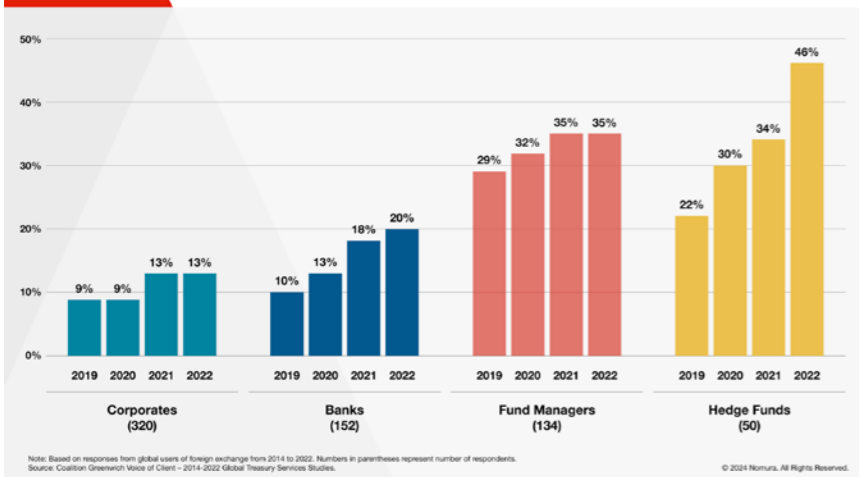
Ben Robson

Finally, Foster and Robson believe that the overall outlook for algo trading "could not be brighter" as they predict emerging technologies, such as AI, look set to usher in a new leg of growth.

"The integration of AI into algos promises to revolutionise the FX market by enabling the development of more adaptive and predictive models, capable of learning from past data sets," they conclude.

More information is available at: <https://www.nomuraconnects.com/focused-thinking-posts/the-rise-of-algo-trading-in-fx-markets/>

NOMURA Percentage of Firms Using FX Execution Algorithms



Among the multiple drivers for the increased usage of algos, Foster and Robson highlighted the following four as significant:

1. Enhance TCA, data and analytics

Banks can now provide data to show that using an algo beats a risk transfer equivalent – such as calling a broker or manually using a platform – over a period of time on average, according to Foster.

Algo trading also reduces transaction costs by minimising the bid ask spread and lowering the market impact of large

trades. According to Foster, this cost efficiency is particularly attractive in the FX market where even small cost savings can translate into substantial profits due to high trading volumes.

2. Speed and precision

Human traders cannot match the speed and precision of algorithms, according to Foster and Robson, while algo trading systems can execute trades in milliseconds, capitalising on short lived market inefficiencies and arbitrage opportunities that would be impossible for humans to exploit.

3. Risk management

Advanced algorithms can also monitor and manage risk more effectively than human traders, in addition to dynamically adjusting trading strategies based on real time market data - ensuring positions are hedged appropriately and risk exposure is minimised.

4. Improved automation

The Covid-19 pandemic broadened the use of algos in FX as market participants working from home found it easier to automate their trading.



A look ahead:

What's in store for FX algo trading in



Ahead of this year's TradeTechFX, a special report by Worldwide Business Research (WBR) and Euronext FX found that 84% of European buy-side leaders believe the FX market is facing a liquidity problem, with a majority (52%) reporting a decline in liquidity availability over the past year. In turn, some 39% said they were considering or already integrating algorithmic order routing and execution platforms into their FX trading desk. How can bank algo providers collaborate with clients going forward to help them navigate this fragmented FX liquidity landscape, reduce information leakage while also meeting increasingly bespoke execution requirements? Nicola Tavendale writes.



Nicola Tavendale



Image by Shutterstock



Bernard Kim

“In the coming year there will be more moves in the industry towards standardisation between the data and analytics on offer to clients which will help them more fairly evaluate the performance of different algo products from the various bank platforms.”

In the report, *Transforming the FX Trading Desk: Strategies for Market Resilience*, the decline in available liquidity was particularly evident during periods of market volatility, making it increasingly difficult to execute large trades efficiently. The rise of algorithmic trading and high-frequency trading was also claimed to have intensified the competition for information, leading to concerns about information leakage and market manipulation. A lack of execution strategy control was also noted by 54% of market leaders, emphasising the need for flexible and adaptable trading solutions to navigate rapidly changing market conditions. The critical importance of liquidity was further underscored by the challenges faced in NDF trading, with 73% of respondents having said that access to liquidity was their primary hurdle, highlighting the need for ECNs to continuously expand liquidity pools and improve order matching algorithms.

However, the algo market has reached something of an impasse in terms of FX algo development, with the focus for bank providers now shifting from rolling out new products and features to calibrating the existing algo suite and taking a more intelligent approach in order to expand their algo footprint, says Bernard Kim, Head of Electronic Macro Business for the Americas at Credit Agricole CIB. Kim believes there are two key verticals coming into play in the algo market, with algos increasingly being used for dealer requests, with asset managers increasingly using TCA and analytics to create bespoke algo wheels to help form their execution decisions. “Clients look to independent TCA providers to help them evaluate algo products,” he says. “But we know that clients also have a ‘trilemma’ to consider when choosing which algo to execute. There are roughly six types of algo strategies and each client has a bespoke way of treating those strategies, but they all have three elements to consider to make that decision. Do I want to minimise market impact, do I want market risk and do I want to maximize execution certainty? It’s not linear. It’s not a simple choice of using a passive or aggressive algo anymore. Within that framework we need to discuss the situation with the client and evaluate accordingly. In the coming year there will be more moves in the industry towards standardisation between the data and analytics on offer to clients which will help them more fairly evaluate the performance of different algo products from the various bank platforms.”

The second vertical identified by Kim is for the algo providers to look closely at the algos they offer and how they execute in order to differentiate in an increasingly competitive market. However, he adds that it is again very hard for clients to look at the available data, such as internalisation rates or TCA reports, to compare algo providers in an effective way, leading to the need for greater standardisation in how algo execution data and metrics are reported across the industry. “At Credit Agricole CIB, this is where we focus on making intelligent improvements within the

six different types of strategies,” Kim adds. “For example, internalisation is often seen as one way to improve fills, but we choose to partner with a peer-to-peer service such as Siegfried FX’s MidPool to replicate a match. Algo providers have to be smarter in order to replicate the little details that other banks have that make them perform better and we are constantly calibrating our own algo offering to continue being the algo provider of choice for our clients.”

STANDING OUT FROM THE COMPETITION

Kim adds that Credit Agricole CIB has also taken a smarter approach when it comes to algo development. He notes that rather than having gone down the slower and more expensive route taken by many other banks of spending years in research and development to create an algo suite in house, Credit Agricole CIB instead opted to form strategic partnerships with a selection of leading technology providers instead. This has meant the team did not need to divert resources into the actual algo build, freeing them up to focus instead of calibrating the algos to perform as required. “We compare this model of partnering with technology solution providers to the F1 Racing Team, Red Bull. Red Bull use Honda’s engines but it is the expertise of the Red Bull Engineers/Pit Crew that ultimately makes it the winning team. In the same way, we also have our own market leading team calibrating parameters and even collaborating with our clients (the drivers) to create bespoke solutions when required,” Kim adds.

In turn, Loic Bourgeois, Head of EMEA eFIC Sales at Societe Generale agrees with the report findings adding that liquidity remains the key challenge at the moment for FX and adds that this has been the case for past year to 18 months. The biggest challenge this creates for banks is the need to source good quality liquidity for the algos to access, he explains. “We often refer to liquidity as a scarce resource, even though intraday liquidity is increasing on a regular basis,” Bourgeois says. “Liquidity is being more and more fragmented in between numerous new players that can recycle liquidity and makes it even more sensitive to

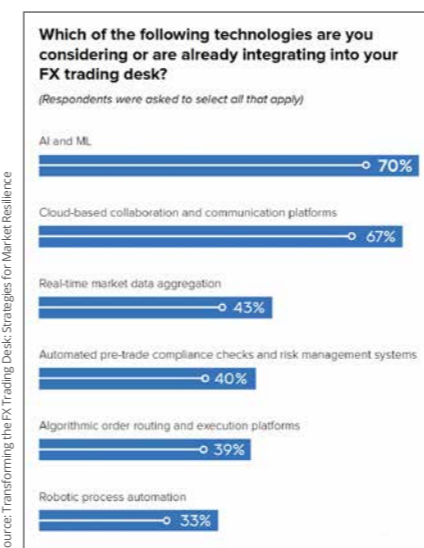


Loic Bourgeois

“Liquidity is being more and more fragmented in between numerous new players that can recycle liquidity and makes it even more sensitive to any information leakage.”

any information leakage. This can be an algo posting an order or even a simple RFQ. One needs to be careful with this liquidity illusion that creates signalling, market impact and increases client cost of execution”

This creates a challenge for algo providers such as Societe Generale, who need to curate the liquidity sources the FX algos can access to ensure they offer quality liquidity,



holding the risk and not recycling the liquidity back into the market. According to Bourgeois, this will be the main challenge for algo providers in the coming months. As well as curating and fine tuning the liquidity algos can access, Bourgeois notes there has also been changes to the sources used. “We try to be as passive as we can. In the past, we were mainly using disclosed pools, but now we prefer to go darker and less disclosed and using mid books more,” he says. “We are also much more agile with the liquidity we use. For example, our most popular algo is our passive Nightjar strategy, which we used to set on an hourly basis. But when you look at the intraday liquidity available in almost most of the G10 pairs, you will notice that between 11:55am, and 12:05pm the liquidity changes rapidly, so an hourly set is not really relevant anymore. This is why a year ago we moved to minute per minute, which makes us much more agile and also cautious with the liquidity we use, to not impact the market too much or too quickly.”

FOCUSING ON INNOVATION

The key is managing the noise made by the algo execution, adds Patrick Guevel, Head of FX Algo Execution at Societe Generale. “This involves curating the people who we are speaking to. It is about being visible or not and one way of being visible is to trade too much. This is why we pace our algos and strictly control how much liquidity is being added to the market so that it is not visible,” he says. “There is currently a race to passivity and into mid books in the algo market. Clients can now see the metrics between internal and external liquidity and compare all the internalisation metrics from the various banks. But we want to have undisclosed and invisible liquidity.” Guevel notes that in addition to recent enhancements to increase the size of the e-book to internalise against, Societe Generale also created direct relationships with other banks to have access to the ebook and to increase the internalisation ratio by staying almost invisible.

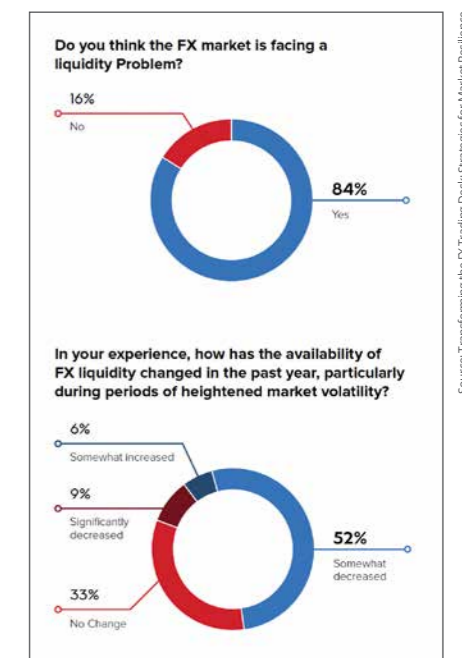
Deutsche Bank have also been busy with innovation in the FX algo trading space. “We have released a new pre-trade visualisation tool called



Patrick Guevel

“There is currently a race to passivity and into mid books in the algo market. Clients can now see the metrics between internal and external liquidity and compare all the internalisation metrics from the various banks.”

Quick Pre-Trade to our Market Colour app,” says Vittorio Nuti, Global Head of LD & FX Algo Trading at the bank. “This is a very powerful new tool that allows clients to see the risk that they’re taking on screen and provides additional guidance on how long it





Vittorio Nuti

“In recent months we have also been partnering with some of the larger hedge funds to do ‘A/B’ testing. This will be something we will be expanding in 2025.”

will take to execute their chosen algo. For example, if I was looking to trade 100 million in NZDUSD, I can check



Aled Basey

“Ultimately different clients use algos for different reasons, so what they really need is a framework that allows for continual iterative improvement.”

using the tool to see all the market movements that have happened for a given execution window by choosing the last number of days to look at on screen, whether that is 30, 60, or 90. The tool then provides an indication of how long the algo would take to complete this trade size and what sort of participation rates I might see if I ran the trade at different urgencies.”

His colleague Aled Basey, FX Workflow Solutions Director at Deutsche Bank says that “Clients are interested in making more informed decisions around their algo use, so guiding them to the optimal algo and parameters for their desired objective is fundamental in selecting the right tools for the job. We’re providing the framework for them to do that as intuitively as possible, basing decisions on real historic data augmented with projected outcomes. As the name suggests, making this quick and easy to use was a priority, such that it can fit seamlessly into their Algo workflow.”

“In recent months,” says Nuti, “we have also been partnering with some of the larger hedge funds to do ‘A/B’ testing. This will be something we will be expanding in 2025. Effectively, we are offering these clients the ability to customise their algo executions in a scheduled manner, and then the ability to run analysis against that schedule. This could start from as easy as the client wanting to explore the outcomes for different urgency parameters to compare the outcomes, or the impact of removing a particular liquidity source. The full parameter spectrum of our algos is available for this A/B testing. It’s very exciting and has taken a lot of work to get to where we are. It will massively benefit clients as they strive to be more precise with their algo executions in order to reduce costs. Historically comparing different settings had limitations on the basis that orders may have been executed in different market conditions, so moving towards a systematic approach allows conclusions to be made on a like-for-like basis. It’s an exciting area of algo development, with clients looking for additional data and fine-tuning their approach in partnership with Deutsche

Bank.”
Basey says “Ultimately different clients use algos for different reasons, so what they really need is a framework that allows for continual iterative improvement. We can do this in a systematic way, so there is no burden on them. Over time, it becomes more and more tailored for what they are trying to achieve. It is industrialising the ability to customise an algo suite specifically to what the clients are looking to achieve, in the same way tech firms tailor user experiences based on usage.”

Nuti goes on to explain that, “A/B testing is agreed before the execution and runs for a period to accrue statistically significant data sets, which then allows us to work with clients and make optimisations to align our outcomes with their objectives. Clients can always do A/B testing from a simulated perspective, but by running it in real time gives them hard data and hard evidence and neutralising any bias from differing market conditions. Clients are also not always solving for just one thing, it’s usually multi-factorial, for example finding that sweet-spot between undue market risk and spread capture. It is a way of changing the settings to then analyse for the outcomes. So the client might say, ‘I would like to try this’, but instead of just trying it and then having sort of two different sets of environments, because you have a pre change and then post change, they can now use A/B testing. With A/B testing, they may want to change a parameter only half the time, or for half the orders and then we can analyse the results and say, actually, this parameter change did not yield anything better in the same environment and in the same period as you were doing those changes versus what you had before. Or we might find that actually, the changes did make sense for this client who should then continue with this new parameter. This allows us to effectively provide a bespoke algo service at scale for this group of clients. This will continue to grow, as more hedge funds are getting involved in the algo space and algo usage continues to evolve. These clients want to

run experiments and to have more flexibility around the product that they are using.”

“What the A/B testing is also doing,” says Basey “is accruing a statistically significant data set to allow our clients to make more informed decisions. By taking a systematic approach and trying different strategies within the same market conditions, it really moves the needle in being able to compare results on a like for like basis. Considering systematic trading houses in particular, it is very much a win-win for them. It presents a much more economical way of rolling out A/B testing than building the programme in house, whilst also benefitting from the lessons we have already learned in this space. It is customised for them, but it also provides that scale within the parameters that we have already developed.”

Looking ahead to next year, Basey says, “we will also be focusing on the user experience side. We are continually looking at ways to enhance that in-flight experience and align our ourselves to our clients’ objectives. From an execution advisory perspective, it is very much around working with the client towards a common goal to deliver them the best outcomes on a consistent basis. What that means in practice is considering full user journey, from choosing the right tools, to in-flight experience and market colour and then post trade reviewing and engaging with the data post-trade to assess what’s working well and where there could be improvements. We’re very fortunate to have such an engaged client base, willing to partner and share their ideas around the future state of the product suite which allows our product development pipeline to continually deliver what they need.”

MEASURING THE COST OF AN ALGO

The algo market is becoming very crowded as more and more banks are now offering algos, says Asif Razaq, Global Head of FX Algo Execution at BNP Paribas. To entice clients to use their algo platform, these new entrants will often lower the fees for new clients, he says. “This is creating a threat to the overall functioning

of the algo market because when this happens, it creates a snowball effect,” warns Razaq. “The client who was offered lower fees might then demand lower fees from their tier one algo providers, who have made significantly more of an investment or allocated significant resources to the development of these algos and the development of new features and strategies.”

If the banks are then pushed to lower their own fees, Razaq explains, then essentially the return on investment from the bank, the revenue model for the banks, reduces quite significantly. He adds: “We have seen an average 75% reduction in algo fees over the last two to three years, purely off the back of competitor price matching.” According to Razaq, the risk is this then reduces the headline revenue for the banks, which reduces return on investment, which ultimately results in the bank’s investment into this technology, into this discipline, reducing over a period of time, thus reducing the quality of the product available to the client.

“It is very much a balancing act,” he says. “We need to be demonstrating to our clients that a reduction in fees does not necessarily result in better execution. In fact, it creates an ecosystem where sub-par execution could be the norm.” The algo team at BNP Paribas counter this by having regular discussions with clients to highlight that the cost of an algo needs to be measured with three key aspects in mind. The first aspect is obviously the fee itself, says Razaq. The second is the overall performance of the algorithm. Then thirdly, which is often missed by clients, is the importance of attributing a qualitative value score to the algo strategy, he explains. “That qualitative score could be asking do you get pre-trade analytics with these new entrants? Are you getting real-time analytics? Are you getting a dashboard where you can view the algo in flight? Are you able to modify the algorithm? Are these algo banks giving you the ability to be create bespoke strategies? If the answer to those questions is yes, then that should be taken into account when comparing the bank algo strategies against those offered by new



Asif Razaq

“We need to be demonstrating to our clients that a reduction in fees does not necessarily result in better execution. In fact, it creates an ecosystem where sub-par execution could be the norm.”

entrants and not just comparing based on pricing levels,” Razaq adds. Yet ultimately some clients will only look at the headline fee number and want to normalise the fees charged to equally distribute their algo order flow across those various providers, he says.

According to Razaq, this has led to the increased use of algo wheels in the market, which try to normalise the algo fee for clients to differentiate algo routing by peer performance of the algo. “But the fee is always going to be a one way parameter, it never goes up - it always goes down,” he says. “Even if you are performing well, the algo wheel will just route more flow to you that is going to take time to bed.”

“The use of algo wheels will increase next year but at BNP Paribas we tend not to like them as they serve a purpose for those clients who do not value the qualitative nature of the service. Often clients demand high performance tools such as pre-trade analytics and in-flight controls. This is a vital quality measure which algo wheels do not cover well.”

Striving for execution quality and operational excellence

DWS Group (DWS) with EUR 963bn of assets under management (as of 30 September 2024) is one of the world's leading asset managers. Building on more than 60 years of experience, it has a reputation for excellence in Germany, Europe, the Americas and Asia. DWS is recognized by clients globally as a trusted source for integrated investment solutions, stability and innovation across a full spectrum of investment disciplines. FXAlgoNews spoke with Ramin Salmen, senior trader at the firm to learn more about his teams use of FX execution algos and how data and analytics is helping them to make more effective use of these powerful toolsets.



Ramin Salmen

Ramin please tell us a little about what your day to day job and responsibilities at DWS involve.

I am a Senior Trader at DWS where my responsibilities include trading FX and Rates products along with their derivatives. Furthermore, I focus on the automation of trading workflows and the data driven optimization of existing processes. A key part of my role hence revolves around monitoring and analysis of our trading activities leveraging both internal data and insights from external TCA providers. My work aims for continuous improvements in execution quality and a state of operational excellence which allows us to provide the best possible trading service for our investors.

How would you describe the key objectives and guiding principles of your trading desk and the dealing activities it undertakes?

The overarching principle of our trading desk is to fulfill the best execution principles. We are a traditional buy-side execution desk, hence operating in an agency model which makes our primary focus ensuring that trades are executed in the most efficient manner and at the best possible price. We strongly invest in automating workflows wherever human involvement does not provide a clear value-add which reduces operational risks, streamlines processes, improves resilience and decreases time to market. To enhance our decision making and therefore our trading outcomes for both manual and automated workflows, we utilize internal and external data sources. This ensures that our clients benefit from consistently improving trading platform.

Top class trading practitioners like yourself are now expected to have a thorough understanding of macroeconomics, market structures and securities pricing coupled with knowledge of data analytics, statistics and machine learning. Do you think the more traditional skillsets required of

the job such as technical trading acumen and an ability to manage liquidity relationships are likely to remain equally important for the foreseeable future?

I think that traditional skill sets, especially knowledge about market structure will remain highly relevant and will most probably become even more critical in the foreseeable future. An in-depth understanding of how markets operate is a crucial skill to have to be able to navigate markets. Managing relationships to trading counterparties also continues to be essential, as especially during periods of high market volatility or other stress scenarios, personal interactions may help in securing better outcomes for our investors. While traditional voice sales relationships are still important, they are now complemented by electronic sales coverage and increased interactions with trading platforms and external TCA providers.

Let's talk a little about FX algorithmic trading. How important are execution algos becoming in your day to day trading operations and what are the advantages of using these toolsets?

Execution algos are an integral part of trading operations and have become

essential to our execution strategy. These algorithms among other things allow us to minimize the spread costs by warehousing the market risk and potentially reducing market impact by breaking up large orders and executing them over time. Therefore, FX algos enable to us to reduce transactions costs and ultimately delivering better outcomes for our investors.

What are your main objectives when undertaking algorithmic FX trading and what types of orders are usually a good fit for them?

Our primary objective when undertaking algorithmic FX trading is to lower the transactions costs, directly benefiting our investors. Discretionary orders which are normally a good fit. The thresholds are continuously calibrated on a currency pair level based on the transactions costs that we are facing on our RFQ trades. Even though an order size might be above the calculated threshold, our traders could decide to execute in a different way as they may want to avoid certain market events and hence regard the direct risk transfer as favorable for the investor.

How do you source your FX algorithms and what influences that?

We are conducting a yearly review of our FX algorithms to be up to date on the latest developments in the market and new product launches of our algo providers. This review includes a qualitative part which queries points such as conflicts of interest, segregations policies, safety features or technical abilities, and a quantitative, TCA driven part. All algos passing the qualitative review form our FX algo universe and are then used based on their historical performances.

How much real-time visibility are you looking for on how an algo is performing during the execution process?

Real-time visibility paired with inflight analytics is a key feature for an FX



Our primary objective when undertaking algorithmic FX trading is to lower the transactions costs

algo suite as it allows for monitoring of execution performance and other metrics like fill rates or aggressiveness during the execution. Live data enables the trader to make better informed decision on whether there is a need to adjust the algo's parameters to meet the desired execution outcome. As the traders are ultimately

responsible for the performance of each algo trade, they should be able to see all the relevant key metrics during the execution process.

How do you analyse the results of your algorithmic FX trading to see how effective it is and whether it is meeting your objectives?



To enhance our decision making and therefore our trading outcomes for both manual and automated workflows we utilize internal and external data sources

We make use of an external TCA provider which helps us conducting an in-depth analysis of FX algo executions. This allows us to compare performance across algos and currency pairs and therefore enables us to assess each algo's effectiveness in meeting our objectives.

Key metrics we focus on include several reversion statistics, which help us getting a better understanding of each child order's market impact and Sharpe ratio-like measures that indicate risk-adjusted performance. Looking at your key metrics post-execution on a sufficient large set of outcomes then allows you to for example draw conclusions about the under-/outperformance of certain algos in certain currency pairs or whether you should be more cautious about fills in specific ECNs.

In what ways are you leveraging data and analytics to help you make more effective use of FX algos?

The use of data and analytics starts from the moment an order arrives in our blotter. Firstly, we assess whether order parameters and current market conditions make it a good candidate for an algo execution.

For the subsequently algo selection process, we are looking at our analysis of the historical performance within the specific currency pair, ensuring we select the best fitting algo. During execution, we oversee the algo's progress and performance using the real-time analytics.

Post-execution, we review the key metrics by both our algo provider's and our external TCA provider's reports. We also evaluate post-execution statistics on an aggregate level, as this helps smoothing out the individual trade variances and therefore provides a clearer picture about the actual algo performance.

What advice would you give to other firms who may be looking to exploit the power of algorithmic FX trading?

I think it is essential to have a robust framework for continuous evaluation of your FX trading outcomes. The insights from this framework then enable you to make informed decisions on when to use FX algos versus other execution protocols. Partnering with an external TCA provider helps creating independent and comparable statistics about each algo execution, allowing firms to conduct objective performance reviews.

Apart from the analytical points, it is also crucial to consider your overall trading workflows, especially how you desire to submit your FX orders into the algos, since more manual processes could lead to less efficient workflows, increased operational risks and increased time to market.



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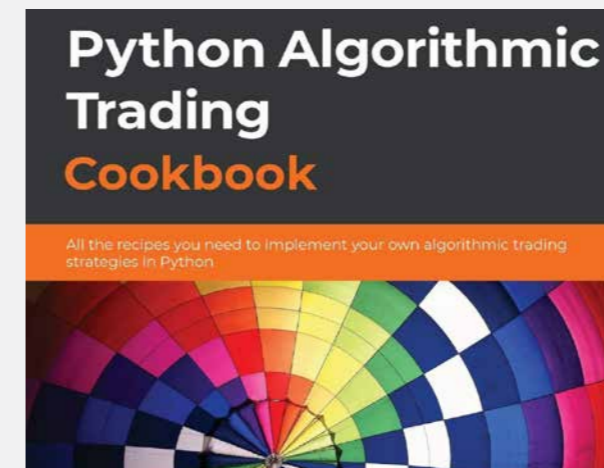
www.fxspotstream.com

FXSpotStream provides a multibank FX streaming and a matching service supporting steaming of pricing in FX Spot, Forwards, Swaps, NDF/NDS and Precious Metals Spot and Swaps. Clients can access a GUI or single API from co-location sites in New York, London and Tokyo and have the ability to communicate with all Liquidity Providing banks connected to the FXSpotStream Service.



BOOK OF THE MONTH

Python Algorithmic Trading Cookbook All the recipes you need



<https://www.amazon.co.uk/Python-Algorithmic-Trading-Cookbook-algorithmic-dp/1838989358>

The limitations of reinforcement learning in algorithmic trading



medium.com/@survexman/the-limitations-of-reinforcement-learning-in-algorithmic-trading-a-closer-look-7312d692ffe5

BLOG OF THE MONTH



KICK-START YOUR QUANT CAREER IN 2025
9th January 2025
quantinsti.com/algorithmic-trading-conference



TRADETECH FX USA 2025
February 10 - 12, 2025
tradetechfx.us.wbresearch.com/agenda-mc



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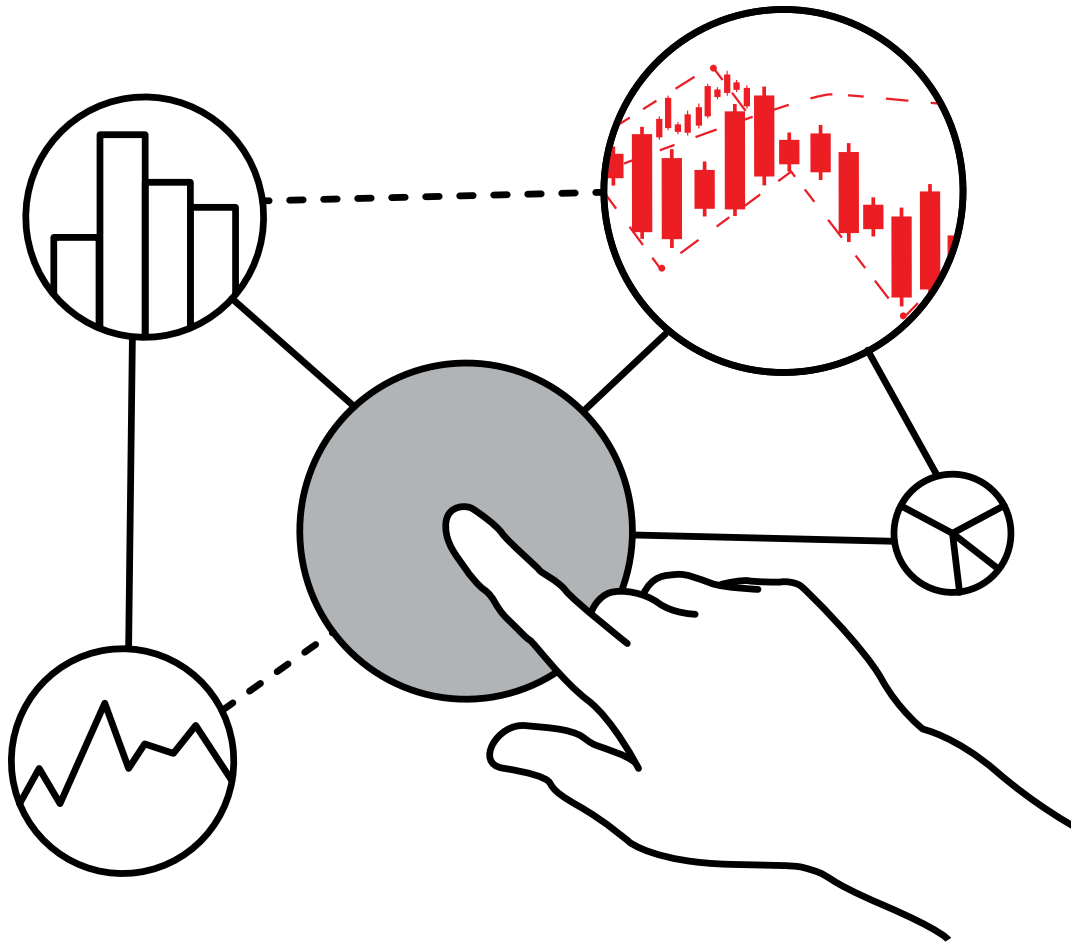
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