

Calibrating FX algo strategies: Taking a more analytical approach to achieving trading objectives

Despite the growing role of algos in the FX industry, recent research by Coalition Greenwich found that only 12% of corporate treasury departments are currently using them. Yet at the same time, buyside understanding of the benefits that algo execution can offer, such as improved pricing and reduction of market impact, was found to be strong, with some 70% of corporates listing the implementation of more algo trading as their top FX priority. What then do FX algo providers need to be doing to ensure that the algo strategies and toolsets are a truly effective way for clients to achieve their execution goals? Nicola Tavendale investigates.



Nicola Tavendale

Client understanding of algo execution has evolved significantly, says Vittorio Nuti, Global Head FX Algos at Deutsche Bank, with clients who previously would have opted for a scheduled algo, such as a Vwap or a Twap, now increasingly preferring to take a more dynamic approach and making sure that the bank ensures the execution is done in a timely

fashion, this doesn't exclude trying to be passive to enable clients to get the best outcome possible. "Each strategy, especially dynamic, can have a huge impact on execution outcomes and this is why algo strategies are becoming a key differentiator," he adds. "That's why more and more providers, like ourselves, are allowing for customisation of the actual execution. We effectively have a framework which we can then tailor to meet, as close as possible, the client execution goals."

Nuti explains that the number of additional factors on offer can depend on the provider, as well as the client. Certain clients want to be filled relatively quickly and they may not be so sensitive to market impacts, whereas other clients are extremely passive and are happy to take a huge amount of variance in their execution, he says. "There are two key considerations: what can the client alter on the fly and what the client can do in the customisation of the algo with a liquidity provider. From our

perspective, we tend to try and have fewer parameters that can be altered on the fly, to allow more homogenous research offline."

The market has also reached the point where using an execution algo is widely accepted as being the most efficient way to offset risk, says Dr John Quayle, Head of Client Algo Execution at NatWest Markets. "It's the method that has the least transaction costs over an extended period of time, particularly for those who do not need to pay for the certainty of outcome on any given transaction by using a risk-transfer price. This leaves the actual choice of algo as being the key decision that users need to think about," he adds. According to Quayle, being able to identify the algos which perform well and understanding which settings give the best outcome for the situation, is now the key challenge facing the user. "Having a trusted partner like NatWest Markets can help solve this challenge - our trading desks are key users of the same algos that





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we share with our clients, and we can help navigate the selection of algos to optimise for target outcomes in different circumstances, or in different market conditions," he says.

KEY DIFFERENTIATOR

The most significant evolution has been in reducing the market impact of algos, Quayle explains. He notes that this is achieved by utilising market intelligence and being able to manage, in a detailed manner, the liquidity the algo is interacting with. "However, although we have cutting edge adaptive placement and slicing within our algorithms, no amount of clever slicing and so-on helps, if, when the trade is done, the other party to the trade uses the information to move the market against the algo user," Quayle adds. As a result, he warns that being able to identify which 'takers' (who generate fills for

the algo) are genuinely benign and 'skew-safe' should be a main priority. "Certainly, our own experience is that any improvements that can be made to the quality of the available liquidity will have an immediate benefit to performance and we are able to see this in our own algos, such as our Peg Clipper," says Quayle. "This experience is shared with our clients in our curated liquidity pools offering. The analysis tends to be iterative, which leads to continuous optimisation over time – this brings the added benefit of being able to account for changing market conditions."

In addition, Twaps would traditionally apply relatively simplistic execution logic, dividing the total order quantity into equal time slices and working each of these slices independently, says Paul Goldberg, Algo Execution Desk Head at Citi. He explains that within each slice, the logic would initially seek passive fills and then aggress at the end of the period to complete the clip amount. "This type of logic was good in so far that it was easy for clients to understand, which in turn helped them feel comfortable using these strategies. However, the fixed nature of this logic meant these strategies were unable to adapt to prevailing market conditions, resulting in spread being paid when not totally necessary," Goldberg explains. "Our new Dynamic Twap works in a fundamentally different way to those traditional strategies, and instead, continuously considers the full objective of the client instruction throughout the execution." This in turn allows the Dynamic Twap to adapt its execution approach in real time, taking into account prevailing market conditions along with estimates, such as market impact and slippage, at completion.

FINE-TUNING EXECUTION

According to Goldberg, this objective-based-approach ensures the strategy has the freedom to optimise how it fills the order while still referencing the desired benchmark, enabling clients to choose how closely they want the strategy to adhere to the benchmark throughout the execution. He adds: "By giving the strategy more discretion to deviate from the benchmark, the client allows the order to deploy

further sophisticated logic that can be more selective in when it executes, potentially getting ahead or behind the benchmark at times, while still ensuring the main objective is achieved by the end of the order period."

Ultimately, the type of strategy and the nature of the liquidity pool are two of the most important considerations clients need to take into account when selecting an FX algo says Alan Schwarz, co-founder and CEO of FXSpotStream. Both will have a significant impact on execution quality, he adds. "In addition, we see clients access the bank's FX algos as a complement to their existing streaming business, so it's even more important that the strategy selected takes into account the other business the client is doing with the bank, over the usual disclosed streaming channel," warns Schwarz. He explains that algo strategies are also continuing to get more granular and more sophisticated in an effort to address the specific needs of the client.

"This is where clients can really benefit from the work that FXSpotStream has done to normalise the offering of 14 algo providers, Schwarz adds. "Each provider offers their own unique parameters that allow clients to control their algos – adjusting the liquidity source, execution style and more. Each provider treats these parameters slightly differently, however, FXSpotStream allows clients to access the algos of multiples LPs via a single API or GUI, eliminating the need for clients to write to multiple APIs." Furthermore, there is also a great deal of customisation available to clients via the many parameters offered in a given algo, according to Schwarz. The parameters available are unique to each provider, he adds. Although some similarities can be noted in terms of execution style and liquidity source, he believes that, after that point, the providers can vary significantly in terms of the extent to which a client can customise and control their execution.

ANALYTICS AND INTERPRETATION

In terms of pure execution outcome, the client will typically have a choice of three execution styles - passive, normal and aggressive - and that will

change the underlying settings of how the algo is executing, Nuti explains. However, when it comes to back-end customisation, the bank has an almost infinite number of ways in which it can fine tune the algo – by currency pair, execution style – even various versions of the same algo, he adds. "For example, we can have a Stark, which uses all our liquidity sources, and then we can have a customised version, which has the same settings as Stark, but which actually only uses a subset of the liquidity sources - if that was what the client wants - and so forth," Nuti says. "But what is truly key is that the client needs to be extremely clear on what execution outcome they want to see, it needs to be realistic, and data driven. The client needs to understand the variance between how much market risk they're taking, versus the savings."

There are also a number of innovative tools being brought to market, Nuti explains, including the benchmarking solution being developed by TradeFeeder – a 'peer universe' which aims to take into account both the volatility of the assets and provide a clean solution for clients to compare each algo regardless of currency pair, time of the day or size - should advance the market in terms of ability to understand the algo and being able to visualise the benefits. "More generally, the depth of the market in recent months has decreased substantially as well as the top of book widened and – thanks to Deutsche Bank being one of the markets biggest franchises and being able to work passive resting orders within that franchise - we are really able to capture that volatility and that spread crossing that happens within the market. We are actually seeing a disproportionate improvement in our execution as volatility picks up in terms of reduction in cost."

However, Nuti adds that demand for customisations has been reducing to some extent as the product development comes to fruition. "Now, it really depends on which client you're talking about - what we would categorise as a super user will probably still want to have a certain amount of customisation, but the majority of our client base will want us to use all the data we have to optimize those three



Dr John Quayle

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buckets of execution strategy: passive, normal, and aggressive," he says. "This shows that the FX algo market really is moving and evolving in the right direction and clients are getting more comfortable in using algos and are happy to let them run."

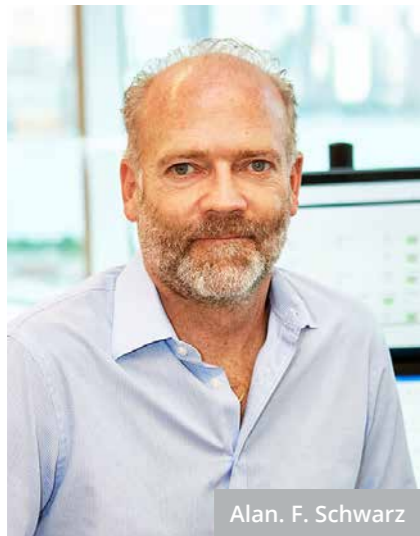


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makes to the algo are consumed by the TCA provider. He notes that certain innovations such as 'peer universe' data sets, by virtue of the increased amount of data available, are useful tools to analyse performance. Additionally, child-fill mark-outs are also becoming more widely available and - again assuming there is enough data to remove the impact of any systematic drift - these are very powerful tools for understanding which algos are able to minimise market impact and generate truly 'good' execution, according to Quayle. "We continue to invest in both the pre-trade liquidity analytics, which help our clients identify optimal timings for execution and in our TCA and data feeds, supporting clients as they try to better understand the success of their strategies," he adds.

However, for any given combination of settings, a reasonable number of algos need to be run to generate some confidence in the results, warns Quayle, and this severely limits the number of combinations of settings that can be tested. "Our Peg Clipper, for example, has roughly 450 different combinations of parameters. Taking into account the liquidity pool choices, levels of aggression/passiveness etc most

users will never want to modify these settings, as the algo's default settings are optimised based on the full history of performance data that we have. Yet for those who do wish to test different settings, the challenge remains," he adds.

Similar to the algo offering, FXSpotStream also provides clients with access to the TCA tools available from the liquidity providers, notes Schwarz. "In most cases now, banks provide access to very robust TCA tools with an aim to optimising execution," he adds, while TCA and other algo related data tools continue to evolve as clients seek more information on a pre- and post-execution basis. "We have also seen a growing demand from clients to be able to assign default values to some of these parameters, leaning on the bank's research and knowledge base to define the best options. Plus, making FX algos available over an API, which is what FXSpotStream offers, ultimately leads to much better execution controls by users," he adds.

Algo providers are, or at least should be, applying their analysis and expertise in identifying which combination of execution controls should be used to get the user's desired outcome, Quayle argues. "Compared to an individual user, the algo provider should have a vastly bigger dataset to use for the purposes of this optimisation problem," he says. The challenge of users themselves performing enough algo runs to be able to make that determination themselves is immense, he explains. "However, algo providers have all the data, resources and expertise to be able to do the heavy lifting here. At NatWest Markets, the same functionality which underlies our Peg Clipper algo is used by the eFX Desk for clearing risk. As the interests of both our own desk and a client are exactly aligned when reducing risk ie. to clear the risk as quickly as possible while moving the market as little as possible, we can on our own executions employ such techniques as A/B testing widely to identify real-world optimisations to the algo settings. A huge volume of trade experience goes into our settings defaults, leading to direct benefits for external users," Quayle concludes.

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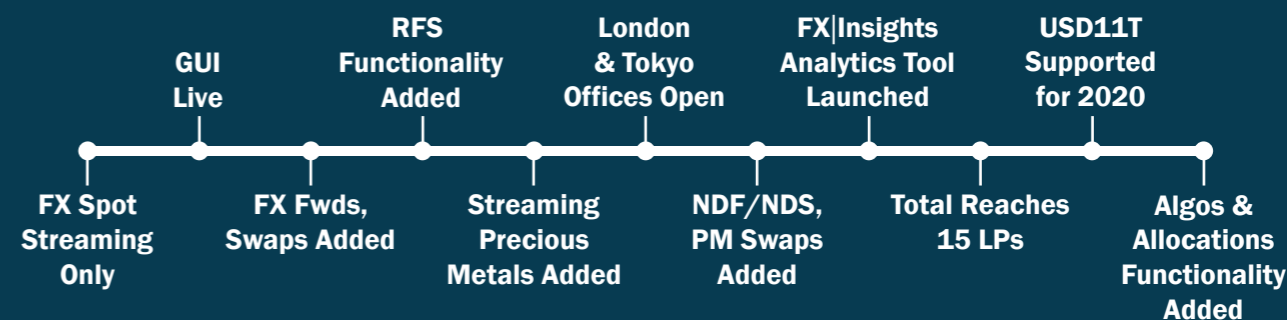
There is also better data than ever available to algo users from various third party providers, Quayle adds, but warns that the sheer number of combinations of parameters is a barrier to analysis, as is ensuring that all the parameter changes that the user



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