



# Automating FX



**FX has long since played catch-up with the equities market in terms of algorithmic trading, but as Frances Faulds finds, with algorithms and transaction analysis tools being built specifically for the FX market, this is changing.**

It is hardly surprising that many believe that the FX market has grown to the stage where the use of automated trading strategies and execution algorithms are becoming crucial trading tools. Apart from the growing number of trading venues and the increased speed and complexity of the markets, the technology arms race is not only making algorithms more accessible, it is making their application increasingly necessary.

While execution algorithms entered the FX market more than seven years ago, Asif Razaq, Global Head of FX Algo Execution at BNP Paribas, says that many

banks are simply still applying their existing equity algorithms to the FX space. BNP Paribas however, was early to recognise that FX is a very different environment from the regulated equities market and a more bespoke approach was required. Over the last few years FX dealers have been increasingly challenged by fragmented liquidity and thus require far more sophisticated execution strategies.

He says a key consideration was that where equities algorithmic traders have the power of sight, and can see the depth and shape of the market, users of FX



algorithms have limited transparency and they are blind to the true depth of the market. Find out on pages 34 – 35 how BNP Paribas has dealt with this, by building artificial intelligence into its third generation FX algorithms.

## Evolution in every way

These next gen algorithms, that move away from the traditional time and volume weighted algorithms from the equities market, have really just come to the market in the past year and BNP Paribas is one of only a handful of banks offering them. Razaq says that they are bringing new participants to FX algorithmic trading that had previously rejected the equities-style algos as they added little value to execution costs.

Today, Razaq says that large corporates represent the biggest growing client sector that is embracing BNP Paribas' FX algorithmic execution. He says: "They are beginning to scrutinise the quality of execution they receive from banks and are finding with all the regulatory changes taking place, that there is a lot more pressure to prove best execution. Traditionally, they have hedged FX exposure across fixing rates but they are now beginning to realise that there are alternative methods to achieve best execution."

Through execution algorithms they are finally able to tackle the issue of best execution in a systematic way. Immediately after each transaction, BNP Paribas produces an auditable post-trade report detailing every fill and venue, benchmarking the final rate against a host of metrics. Razaq claims that the ability to prove best execution has encouraged corporates to try out algorithms. Many of them are now using them as an alternative to fixings for large orders.

Razaq also believes that algorithms are quickly becoming a necessity in the FX market, simply because there is no other way of ascertaining best execution across all of the different execution venues that now exist in FX. For this reason, BNP Paribas is making its FX algorithms more widely available via CORTEX, its single dealer platform, and through multiple distribution channels like FX All, Bloomberg and FX Connect.

He says: "This is really the future for foreign exchange trading. Volumes are dramatically increasing on a year by year basis as people become more comfortable with using execution algorithms. Where traditional algo traders have been blind in seeing where the market really is, BNP Paribas' third generation

algorithms are giving them the power of sight as to what the true level and depth of the market is in real time."

## Slowly but surely

While Jim Kwiatkowski, FXall's Global Head of Sales, believes that it is still early days for FX algorithmic trading he adds that interest from FXall's customers in using them has grown significantly in the past year. "The majority of our business is built on relationship based trading where customers execute directly with a bank and we want to ensure our customers are provided with the appropriate workflow tools that best meet their trading objectives. However, an increasing number of clients are choosing to adopt FX algorithms," he says.

FXall's client base can connect directly through an API to use their own algorithms or use algorithms provided by FXall or their partner banks. FXall's Portfolio OMS, a workflow solution for both corporates and asset managers, provides straight-through-processing and netting for orders, and multi-account allocation which is particularly valuable for asset managers. In terms of execution, in addition to single bank collaboration and multi-bank trading, customers can now choose to route an order to one particular bank using a particular bank's algorithm. He adds: "So we provide a menu of multiple banks and, under each bank, multiple algorithms. The banks take the time to educate customers about how to use different algorithms so clients can choose the algorithm that they believe is most suited to their trading objectives."

## Feedback is critical

On top of this, Kwiatkowski says that FXall offers additional help by giving clients feedback on the quality of execution. FXall's Execution Quality Analysis (EQA) reports provide an advanced analysis which helps institutional traders analyse their FX trading strategies by reviewing results achieved using the multiple execution mechanisms and liquidity providers available on FXall, so that institutions can benchmark and improve their trading and execution performance.

Through Order Book (previously called Accelor), FXall provides additional algorithms enabling customers to execute large orders using TWAP pegged orders and hidden orders, all of which have come from the algorithms that grew up out of the equities market. Also within FXall's ECN is a tool called Smart, which is a combination order looking at both



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BNP Paribas

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streaming bank prices and the ECN to monitor prices and execute limit orders automatically. He says: "Here we are replicating what we have seen traders using our aggregator for. We believe that by using algorithms to automate the most common execution styles, traders can focus attention on the less mechanical aspects of execution."



**Rob Weissman**  
FlexTrade Systems

For Kwiatkowski, the decision to use or not use algorithms comes down to making a choice between taking and transferring risk, but paying a premium for doing so. Efforts to improve execution in the FX market are spurring the interest in their use as well as in the analytical tools which report on their performance. Although FX algorithms differ from those used in the equities market, he believes they serve similar purposes: breaking up large orders and minimising market impact.

### Meeting demand

Rob Weissman, Vice-President, FX, at FlexTrade Systems, the broker-neutral FX trading platform, says that FlexTrade has been able to combine its multi-asset suite with FX to get best execution for its clients via its enhanced transaction cost analysis tool, called Transactional Quality Management. He says: "From the real money, buy-side perspective, we now have customised netting, allocating, blocking and other tools to give these clients best execution with minimal transaction costs. From the sell-side perspective, we have EMS and OMS capabilities for handling client flow better via auto hedging/routing rules and we are enhancing our dynamic spreading capabilities while adhering to risk management requirements."

Based on client demand, FlexTrade has added a global hosted solution in New York, London, Singapore and Tokyo, and is implementing a global risk management solution that can access any hosted site for low latency, while managing risk at a local level or from a global perspective. "I think the biggest issue in addressing changing demands for institutional requirements revolves around adhering to the regulatory requirements of Dodd Frank for 2013/14," he adds.

Weissman believes there has been a transition in the past few years where the HFT space has consolidated as the margins have gone down. He says: "The banks have made tremendous progress in being more intuitive in implementing algos into their price engines and risk management guidelines. There is more internalisation of client flow and I believe this has helped the market as a whole."

Where to find the best liquidity with minimal market impact is imperative and while best execution and achieving benchmarks are constantly moving targets in FX because of the lack of transparency within the liquidity venues, Weissman believes that best execution can be achieved to a certain extent based on the liquidity providers users are connected to.

He says: "As FX liquidity is subject to the credit you can receive from either your direct bank relationships, your prime broker(s) or via margin, you are restricted to what venues can provide best execution. Best execution for a 'block amount' may be handled completely differently than a small amount, so one has to determine what is the best way to execute a specific currency pair as different venues have inherent benefits and niches."

Weissman says that benchmark tools, such as Transaction Cost Analysis (TCA), can help better define best execution. By analysing, post-trade, execution against the top of the book price, time weighted average price or any other measurement based on the liquidity pools being used, performance can be measured via latency, probability of getting filled/reject ratios and other variables to better determine where best execution should be.

### The retail view

In the retail market too, interest is growing in use of algorithms and automated trading strategies. Courtney Gibson, Vice President of Trading at Oanda, says the lower barrier to entry and the deep liquidity of the FX market is enabling retail traders to dip a toe into algorithmic trading as the lower volatility of the FX market reduces the complexity of implementing algorithms.

He says: "The FX market can remove a number of the frustrations to the implementers of algorithms just through the better liquidity and as an industry FX has been very good at bringing the professional tools to the retail traders in terms of access to data feeds and low latency interfaces to brokers."

"We have been able to roll out a number of solutions that allow professional traders to get an extremely flexible view of the market, and where they are neither constrained by lot sizes or vendor systems." While he also believes the availability of cloud computing and new hosting arrangements is reducing the barriers to entry to high frequency trading in terms of economic costs it is still one that requires a significant investment in technology to tackle the issues of latency magnified by HFT.

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**Courtney Gibson**  
Oanda

Oanda customers range from those using traditional algorithms to offset market risk from other asset classes, those trading technical indicators to those using more sophisticated algorithms to monitor market movements and respond quickly to them in an automated fashion. He adds: "The liquidity availability in the FX market means it a good environment to minimise the difference between the theoretical algorithm and the practical reality of how it actually works in the marketplace." Oanda provides a number of interfaces to its clients to connect with, including the MT4 ecosystem, as well as the data streams needed for algorithmic trading.

For Gibson, algorithmic trading, as a broad umbrella used for a number of purposes, will increase FX volumes and the quality of the trading experience of users. While retail traders are not engaged in high frequency trading or do not necessarily have large orders to slice, the biggest benefit he believes algorithmic trading brings to professional traders is having a computer manage their positions, 24 hours a day.

"No retail trader can watch the market 24 hours a day and the use of algorithms to do this is of huge benefit in reducing risk and increasing opportunity. We are also seeing greater sophistication in ways using FX as a tool to reduce risk and in the management of that risk as portfolios become increasingly globalised," he says.

To this end, Gibson believes that as cloud computing and low latency connectivity become more available to retail traders there will be a greater shift towards them employing more sophisticated high frequency strategies, to take advantage of market movements that are happening on tighter timescales. "Retail algos will shift as communication technology becomes cheaper over the coming years. As the costs go down the opportunities to compete on shorter timescales will increase, and the critical mass of volume that technological savvy retail customers can bring to bear on the market should not be overlooked."

## Profitability in focus

Also, Antonio Emmanouilidis, Head of Quantitative Analytics, at FXPro, says an analysis of client trading volumes and profitability for last year showed that traders utilising automated trading systems are consistently more profitable and see a lower variation in their profitability compared to those who trade manually.

He believes there are three main reasons for this. "Successful traders have a system which they research, back-test, deploy and stick to. The best way to do this

is building it into an automated strategy, which supports each stage of this process. Secondly, this greatly reduces the psychological barriers to trading and common mistakes that less experienced traders make, such as running with losses, cutting winners too early which means poor money and risk management. Finally, automated trading strategies will always surpass manual ones for speed of execution and the number of instruments and conditions that can be monitored and analysed."

He believes bridging the gap between the programming and trading sides of the equation will be crucial to the future uptake of algorithmic trading. Algorithmic trading is possible on both FXPro's MT4 and cTrader platforms, which have been improved in recent months to make the move into automated trading easier and to support traders in building their own trading strategies.

A soon-to-be-launched visual strategy builder will allow FXPro's clients to create an automated trading strategy without having to write any programming code to make automated trading more accessible and less daunting. FXPro's cTrader platform will continue to support clients who wish to transfer their automated strategies to cAlgo (cTrader's algorithmic trading facility) and offer a host of pre-defined indicators and strategies.

Emmanouilidis adds: "In the future, we see more volume migrating to automated trading strategies, because such an approach is more consistent with the trading strategies and styles of the more successful retail traders."



Antonio  
Emmanouilidis  
FXPro

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## Algo trading in numbers

StreamBase's annual FX Trading and Technology survey is a good source of statistics on algorithmic trading. According to the latest survey, published in December 2012:

- Use of execution algorithms is up 6% across all respondents.
- 48% of buy-side firms use algorithms to execute their FX trades, a 14% increase from 2011.
- Liquidity aggregation algorithms followed by floating algorithms are the two most commonly cited algorithms in use by FX firms.
- There is more variation and creativity in buy-side algorithms than on the sell side.

## Further information...

[www.fx-mm.com](http://www.fx-mm.com)