

# Which, When and Why

taking a more informed approach to algorithmic FX trading



William Essex sets out to explore why choosing the most appropriate FX algorithm for their own specific needs can sometimes be a complex undertaking for many buy-side firms who may be new to the benefits and applications of using algorithms.

## FX ALGO TRADING GROWTH

What is it about FX algorithms? You wait millennia for somebody to automate the global foreign-exchange market, and then all of a sudden you get dozens of smart, intelligent, intuitive, even educative FX-algo solutions all coming along at once. Yes, it took a near-terminal global financial meltdown coupled with a large-scale exodus of talent from equity desks to get the development work really moving, but now we're very, very well supplied with FX algorithms for pretty much every occasion.

This is good, right? Algo trading and execution effectively breed sophistication: smart-order routing, data management, the elimination of latency – all part of the same ongoing development process and all contributing to efficiencies within markets, albeit not quite efficient markets (yet?). There's also regulation: FX algos and their enabling technologies give us transparency and a clear TCA trail. Peter Bondesen, Sales Manager EMEA, FlexTrade UK, says: "With the TCA reports that can be generated post trade, the trader can have full transparency into what sources of liquidity were used and when."

And there's one other, somewhat newer, trend running alongside all this: sophistication enhances accessibility. Today's FX algos are intelligent enough to know that they're part of a "people-plus-machine" team; we've put all that "machines are taking over" rhetoric back in the attic.

### LET THE ALGOS DO THE TALKING

All the arguments for using FX algos are set up and ready. They even cut

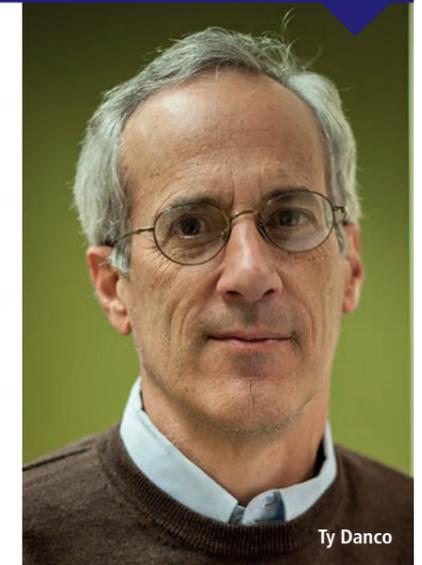
"Algos can be extremely useful, especially as FX gets more fragmented."

costs. James Wood-Collins, CEO, Record Currency Management, said recently: "Ways to save on all sorts of execution costs are seen as increasingly important." Algos do that. They keep an exact real-time record of what they do, and in effect, of what they spend as well. Today's subject for discussion, therefore, looks like it's going to be an easy one. How can we support the buy-side in taking a more informed approach to algo trading? Given that algos are by their very nature informative, the answer could almost be: let the algos do the talking. If ever an article was set to write itself, this is the one.

So we're going to start with a question posed by Ty Danco, CEO, Buyside FX. The occasion was an early morning (ET) discussion of Greenwich Associates' recent (April 2014) report *FX Electronic Trading 2014 - Global Trends and Competitive Analysis*. This tells us that "11% of market participants now use execution algorithms for some portion of their trading," which is up from 7% in 2012 and projected to reach 18% by end-2014 (sample: "1,584 top-tier, buy-side foreign-exchange users around the world").

We were agreed that if we drew a line from 11% now to 18% in six months, it would definitely be pointing upwards. We were agreed that Greenwich Associates' sample size was convincing.

Ty Danco asked: "Why don't people use FX algos?" They do. Of course they do. Danco's observation was that although these are indeed quite impressive figures,



Ty Danco

they could – and perhaps should – be bigger. FX algos are not new, there are lots of them, and by way of a comparison, equity algos are everywhere. So why aren't FX algos similarly ubiquitous?

### NOT ENOUGH BIG PAIRS FOR ALGOS?

Curious, isn't it? Hedge funds, yes, they use FX algos, but if we can assume (and the survey confirms this particular no-brainer) that rather more than 11% of hedge funds are conversant with FX-algo technology, we must also assume that rather fewer than 11% of other market participants are similarly informed about algos. Is it that people don't use them because they haven't come across them? Or because (guessing here) they equate technology with complexity? But – wait a minute – the trend in recent years, among developers and providers, has been towards accessibility, user-friendliness and all-round ease of use. The target market for that kind of activity

## Which, When and Why

wouldn't be hedge funds. Why isn't everybody using execution algos for "some portion" of their FX trading?

The logical next step in this discussion would be to go through all the reasons why FX algos are such handy little tools. "The benefits of using algos are plentiful," says Peter Bondesen. We could develop that, probably should, but let's guess that in some cases, we're not just preaching to the unconverted; we're preaching to the already preached-at. James Wood-Collins, quoted above, also said recently that electronic trading is not a "universal panacea". True. But ... one little algo? Just occasionally?

What's at issue here is how we pitch our algos, and what the resistances are. Looking at the FX market itself, Danco suggests: "You could argue that the arguments for using algos in FX are less compelling than they are for using them in equities. There are lots of little mid-cap equities where \$1 million or so will really move the market – not so in FX, where relatively few currency pairs get the large majority of flows, and hence are more liquid and less in need of special algo treatment." Okay. But

Danco continues: "That doesn't mean algos can't be extremely useful, especially as FX gets more fragmented." Indeed. If there's an argument for transacting FX, there's an argument for (even occasionally) using algos to do it.

For hedgers and asset managers in particular, there's another argument around best execution. Gary Stone, Chief Strategy Officer, Bloomberg Tradebook, says: "If I'm an FX market participant, can I be sure that I'm getting best execution if I'm only interacting with one bank's liquidity? Or is a better solution to have an algo that interacts with several banks' liquidity at the same time?" Hmm. As Stone suggests, a client working with a three-quote rule might find it problematic to hook up with a single bank's algo suite.

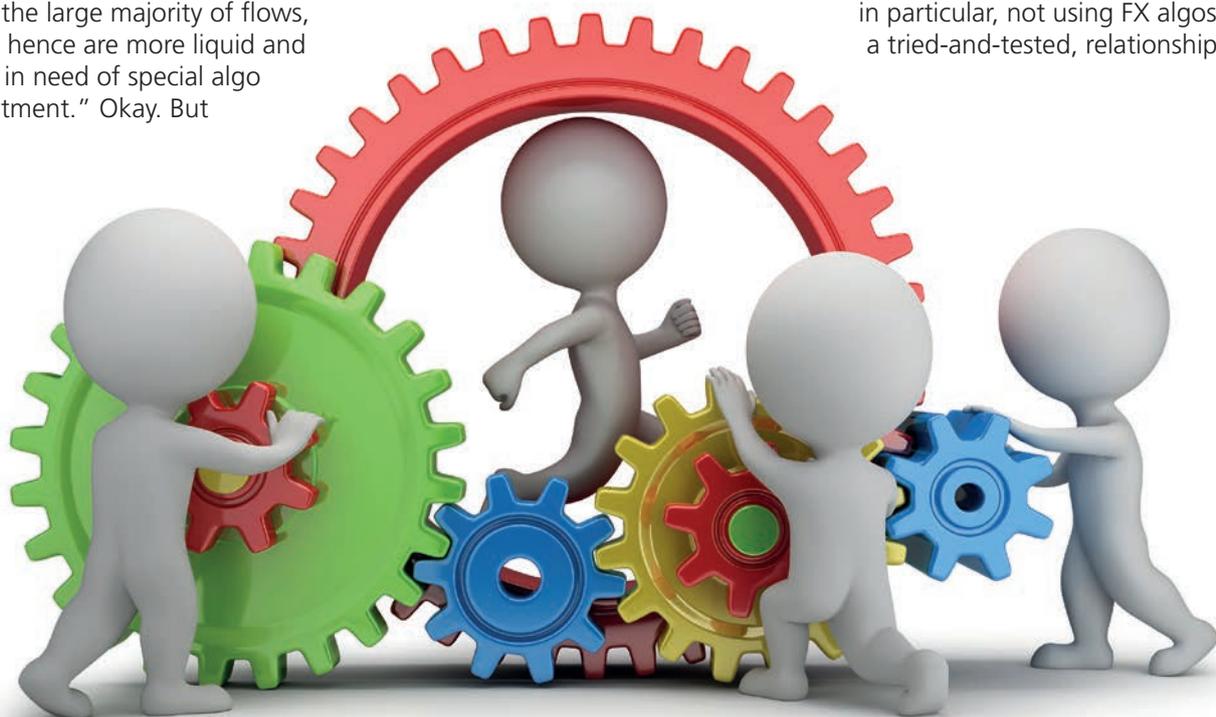
We'll come back to that. First, we need to get to grips with the most compelling aspect of this whole discussion – the commercial

opportunity. 18% using FX algos is 82% not (yet) using FX algos. How do we tap into that?

### CHOICE IS A FORM OF COMPLEXITY

First, how easy is it to choose an FX algo? Let's assume a client working with a three-quote rule who's one of the 82%. Conversant with FX, probably not a hedge-fund manager.

When does choice become a challenge in itself? When does supply become over-supply? Choosing the most appropriate FX algorithm for their own specific requirements can be a complex undertaking for many buy-side firms. Given the percentages cited above, it's a fair assumption that many (most) corporates, asset managers and fund managers will be new to the benefits of algorithm usage. It follows that they may be unaware of the applications to which such tools can be put. [There's also something else. For many FX-market participants, corporates and commodity firms in particular, not using FX algos is a tried-and-tested, relationship-



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## Which, When and Why

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Gary Stone

based, embedded method of getting business done. Not to make too much of this, but we might factor in a degree of resistance to change.]

It isn’t even as though using an algo is significantly different from using a human trader these days. Bondesen says: “The algos of today are making multiple decisions dynamically and therefore work the order based on parameters similar to what a trader would think of himself. The main difference is the speed at which an algo can change the strategy.” That, and the snazzy cufflinks. It’s not – shouldn’t be – a big deal.

Could it simply be that there are too many FX-algo solutions competing for space in the market? Discussing this idea, Pete Eggleston, Head of Quantitative Solutions & Innovations at Morgan Stanley, says: “There’s a very wide array of execution methods and products available. It’s a matter of figuring out what all the different products do, but also once they know what they do, being

able to decide what to use when, and why. It’s a question that’s at the forefront of many clients’ minds.”

The choice is all there, but this isn’t: do I like green apples or red apples? This is more like buying your first smartphone if you’ve never had a cellphone before. It’ll be useful one day, but right now, can’t I go back to my landline?

The challenge is not just to provide FX-algo functionality, but – still, even now – to make it sufficiently user-friendly for 82% of market participants even to start using it. We’re not doing anything wrong, any more than Apple was wrong to launch the first iPhone, but there’s something right that isn’t getting across. It’s disconcerting to be told, by firms with a significant presence in FX, that they don’t make use of algo techniques, or that algos aren’t relevant to the way they manage their exposures, but it happened several times during the research for this article. These tools aren’t rocket science; it’s as easy to work out what the simple little VWAP doohickey in your toolbox does, as it is to work out what a hammer does. But if you just want to bang in a nail, you just want to bang in a nail. Not to spend even a short time thinking about how the new and unfamiliar tool would do it.

### TRANSPARENCY, TERMINOLOGY AND NUMBERS

Why don’t people use FX algos? How could people be persuaded to use FX algos? For Pete Eggleston, that second question is best addressed by presenting clients with a more refined choice of instruments accompanied by a mechanism for

working out what choice to make – and whether the choice made was the right one. Eggleston says: “There are two aspects to how we’re trying to help clients on this front. One is to present a core set of products that have a very clear focus on what they’re trying to achieve. Secondly, we deliver a suite of analytics that support our products and the decision-making process.” There are five products, each of which has a clear and distinct objective, and there’s a set of tools on Morgan Stanley’s Matrix Platform whereby clients can run through a pre-trade calculation of whether to use an algo at all, and if so, which algo. Eggleston continues: “If the client decides to use an algo, the tools will help decide over what trading period the algo should be set to run.”

Morgan Stanley has recently launched – and this will come as no surprise, given all of the above – their Execution Dashboard. Eggleston says: “This is designed to give clients transparency as to what’s going through the electronic market in real-time, and to help them understand the market mechanics at any given time of day.” Transparency in this context is descriptive of market conditions. Eggleston says: “This is very much an education process. The Dashboard tells clients when we’re in a high-volume, low-volatility environment, for example, and clients will know which product typically works well in those conditions. The Dashboard is an aid to more informed decision-making.”

The terminology is significant: although a huge amount of work is going on behind the scenes, a dashboard is an easy as well as useful thing to have in front of you, whether you’ve just climbed into the driving seat of your Ferrari or opened up Morgan Stanley’s toolbox. Words matter.

So do numbers. Eggleston describes Morgan Stanley’s choice of five algo

solutions. Other banks offer two – typically, one more aggressive than the other. There might be more than two, and/or a hierarchy of choices beneath each top-line option, but the choice is generally a clear (and probably binary) one made clearer by the terminology used to present it. As Ty Danco comments: “The aggressive algos all have such strong, macho names.” You can tell by the name that if you pick the aggressive algo, it’s going to snarl at your counterparty like the car snarls in that BMW ad. Another commonly used term is “control”. Clients get to take control of their own transactions. And they do. It’s easy to start using algos, it’s obvious what they do, and it’s easy to go on using them. But the puzzle remains: that isn’t happening. Putting clients in the driving seat doesn’t work if they, er, still decide to get out and walk. FX algos may be the ultimate transacting machine (with apologies to BMW), but that message isn’t (yet) getting across.

Let’s agree that choice is easier if it’s smaller. A hand of five algos beats limitless algos. Our client’s



Pete Eggleston

**“In the asset-management and pension-fund communities, the priority will be to avoid executing at extremes of the day.”**

in the driving seat and there’s a clearly marked set of controls within easy reach. The next step is to talk about it. Another recent trend is to recognise that algos are not just part of the toolkit; they’re part of the relationship. After all, choice may also be more user-friendly if it’s mediated – and feedback can be illuminating. Bloomberg Tradebook, for example, offers a service called Execution Consulting. Gary Stone says: “We provide a human element to support the electronic pathway that helps guide clients to match technology with trading and execution goals and needs.” This goes beyond a simple either/or. Stone says: “When we look at how our execution consultants deal with FX-market participants and our clients, what we really do is talk a lot about how algos can be used as a risk-reduction tool.”

Ah...

Risk reduction. Of course. Stone says: “When we look at other marketplaces that became very electronic, it happened when algos became a risk-management tool rather than a direct market access tool.” Stone goes on to repeat his point that “you need a person,” to emphasise that changing a client’s perception is not something a machine can do for itself (the humans are taking over?). This is a neat reminder that when we talk about algos, we’re talking about one element in a complex interplay of elements. Perhaps algo usage requires integrated services, from voice to VWAP and beyond, that are offered within a stable client:provider relationship. And if the discussion turns to client education – as it often does

## ALGORITHMIC FX TRADING



### Let the algo’s do the talking

– perhaps the education we need is the mutual kind that occurs naturally within a long-term, ongoing relationship.

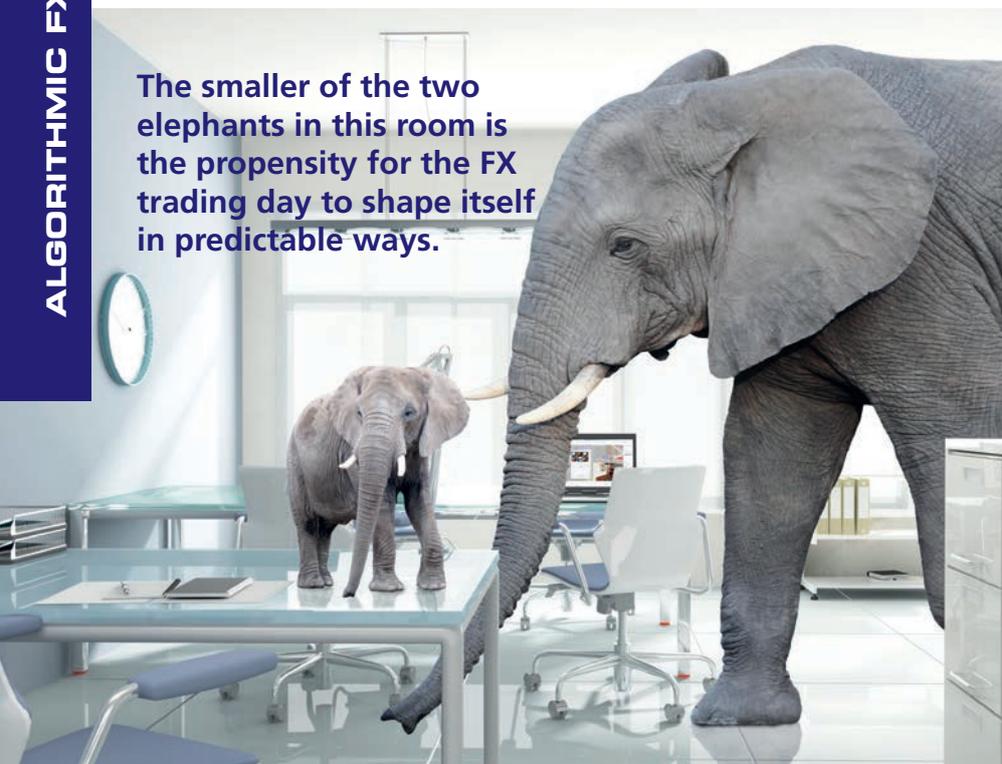
But that’s a good point about risk reduction. Useful, too. It’s hardly necessary to “sell” risk reduction per se, but if we’re going to talk about what common algos the “entry-level” buy-side might start using, perhaps we should look for the risks that might most readily lend themselves to reduction by algorithmic means.

### THE LONDON TEA PARTY

Not that this is exactly a paradox, but one significant use of algos is to reduce the risks inherent in transacting in an increasingly (or at least partly) electronic market. Algos are tricky little instruments, useful for offence as well as defence, and it’s thanks to electronic trading that we have, for example, dark pools, fragmentation, those uneasy feelings of being watched as we try to shift our big fat block trades without being noticed. Transparency is important of course, but there are times when we can legitimately say

## Which, When and Why

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... not just now.

Timing is another issue that's not getting any smaller. Pete Eggleston says: "In the asset-management and pension-fund communities, the priority will be to avoid executing at extremes of the day. They may have discretion over the time to execute, and what many are looking to do is use algos that trade over longer periods of time and average into the market in such a way as to avoid the extreme price movements of the day."

There are other clients for whom the term "day" denotes an impossibly long span of time, but if we're correct in our assumptions earlier, those guys are pretty much sold on algos already. Let's not exclude them, but let's acknowledge that in the global FX market, for many of its participants, a day is also a meaningful unit. Which is problematic in itself. The smaller of the two elephants in this room (the big one's already getting enough coverage) is the propensity for the FX trading day to shape itself

in predictable ways. Yes, this is a 24-hour market; yes, the sun never sets on the global foreign-exchange market; yes, the big players spend a lot of time and money on developing "stealth" trading systems – and hey, algos – that enable them to get in and out of the market without being detected. But there is at least an element of predictability about the world and its seasons; about multinationals and their business cycles; about macro-economics, data generation and release, perhaps even about the reactions of politicians to events.

Moving swiftly on, this is a mostly modern market where relatively few currency pairs get the large majority of flows, as Ty Danco pointed out earlier. If it's absurd to talk about FX as predictable, perhaps we could at least float the suggestion that FX does lend itself to the ongoing, relentless, increasingly IT-driven search for patterns and predictability that characterises most markets these days. Gary Stone says: "The benchmarks in FX aren't really well defined. It's an OTC market and

a lot of the key data is missing." Except when the benchmark is an old-fashioned tea party, with all the predictable ritual that goes with that. Stone also says: "The fixing could be replaced with a VWAP. The problem is, there is no good source of accurate volume information, which makes that difficult to do. That's one of the challenges the fixing has in terms of migrating to a different standard."

So what we have here – for the purposes of this discussion – is a case where a VWAP algo could serve as a defence against a spectacularly old-fashioned risk-event that technology has made problematic. Nobody reading this is going to need a run-through of the stats relating to the volatility that seems to hit the FX market while London's traders are serving each other afternoon tea, but this at least seems clear-cut: 1600 London time is a very liquid point in the day, that's a risk issue, and we're talking about fixing it with an algo.

Again, let's move on. Taking all of the above into account, what factors might influence how the various FX buy-side sectors undertake – or could undertake, or should undertake – their algorithmic trading?

### OPERATIONAL EFFICIENCY

There's performance. There's risk reduction. Combine the two, and you get number three: timing, which is more than a teatime risk. Bondesen says: "Time is always a factor because using the correct algos can save a lot of time compared to a trader working the order. Once completed, the STP should be in place for a seamless transaction. If timing risk is an important factor to the trader, he needs to choose an algo that can get a lot of volume done quickly." Even the handling of time develops over time. Bondesen continues: "Some of the early algos were VWAP, TWAP, and iceberg

## Which, When and Why

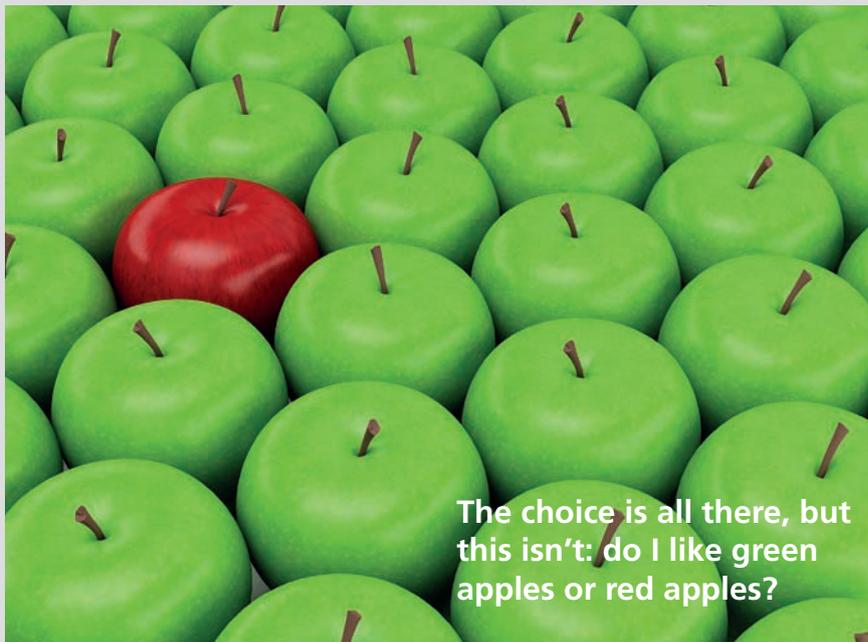
orders, whereas later generation algos are more focused on predicting where the liquidity will be at given times."

But there's also a bigger factor that lies behind all the others: direct engagement with the market (in more than just the conventional DMA sense). Benchmarks have their uses. Not all FX-market participants are there by choice. Fine. But there seems to be an increasingly strong case for preferring a more tactical approach based on what's really happening (in the sense: in real time rather than over a representative time interval). This might present itself as a more-or-less simple question: do you want to get the trade away now, using such technology as might be required to get you in and out safely, or do you want to shift this one over time, using a TWAP maybe, establishing an average price as you go? Or it might even be: do you have a fiduciary responsibility to watch what's being done in your name? It's simple: in today's FX market, nobody gets away with FX-as-secondary any more.



Peter Bondesen

"If timing risk is an important factor to the trader, he needs to choose an algo that can get a lot of volume done quickly."



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The market's changing and clients know it. Gary Stone says: "It used to be common convention that the slippage of doing a bunch of little trades was so big that it was beneficial to do one big trade at the liquid point of the day. Now, people are asking whether they should hedge as they go, rather than waiting, and create an average price with a hard limit." People are getting engaged. Pete Eggleston says: "Until 2012, there were an awful lot of people evaluating algos, trying to understand them, working out what their value might be to their execution. In 2013, all of a sudden, there was an explosion in the number of clients using algos rather than just investigating them."

### SO WHAT DO WE DO?

We spoke earlier about the challenge of going to a board (or, let's add, a compliance officer) and reporting that the FX desk is using a single provider's (bank's) algos. This article has touched upon two significant issues that remain unresolved: the

absence of any meaningful "tape" and the various issues that arise around benchmarking. Gary Stone, who made the point about talking to the board, also says: "I know that there's discussion as to whether or not there is a best-execution responsibility to source more than one algo at each point where the algo is executing. I may have TCA to tell me that a single bank's algo is really good, but is that enough?"

Maybe we aggregate? Barclays added passive algos to its Gator aggregator in Q4 last year, with the stated objective of attracting corporates and others interested in minimising their market impact. Gator gives access to external as well as the bank's own liquidity ... you get the picture.

Or maybe we just guess that all the discussion represents pent-up demand and wait for an even bigger explosion than Pete Eggleston experienced back in 2013. Ty Danco says: "Yes, I am a fan of algos. As the FX markets mature and software becomes more user friendly – requiring no special coding skill to assemble an algo – there's no doubt that algorithmic usage will skyrocket."