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# Long-Term Investors Embrace FX Algos



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## Introduction

*Execution algorithms have become popular for foreign-exchange (FX) trading in recent years, driven by strong uptake among hedge funds, market makers and speculators. Not wanting to be left out of this trading technology arms race, Greenwich Associates is seeing increased algo usage by long-term investors and corporate end users. For these traders, algorithms are sophisticated tools that allow them to intelligently access multiple liquidity sources, reduce information leakage and improve trading performance.*

*FX investors have long had the ability to access their market directly via electronic channels, with most trades routed to and matched on multi-dealer platforms. Despite the market's heavily electronic nature, however, automation via trading algorithms has until now been limited. While dealer relationships remain important—given the research, credit and other non-execution services they provide—longer-term investors are demanding a level of increased control and transparency into the trading process that only automation brings.*

*Catalyzed by a growing focus on best execution, long-term investors are increasingly turning to algos and transaction cost analysis (TCA) to optimize their trading performance.*

## METHODOLOGY

From June through August 2016, Greenwich Associates interviewed 78 buy-side foreign-exchange traders across the globe to learn more about trading desk budget allocations, trader staffing levels, OMS/EMS/TCA platform usage, and the impact of market structure changes on the sector.

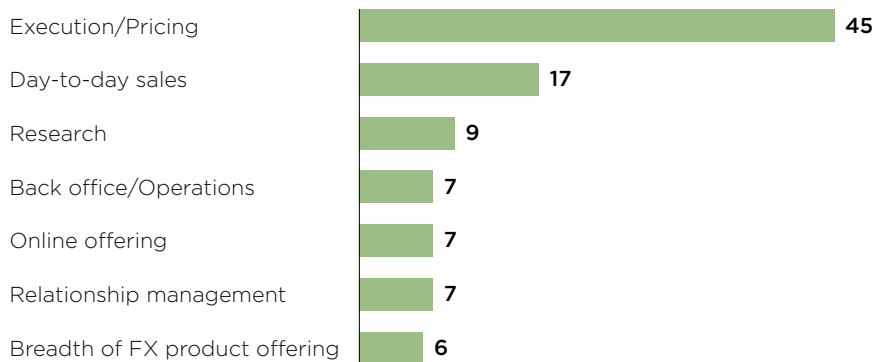
Between August and November 2016, Greenwich Associates interviewed 2,400 users of foreign-exchange services across the Americas, Europe and Asia Pacific.

\*Excluding messaging systems

# Execution Quality Continues to Drive Flows

Quality of service is the primary driver of FX-investor trading decisions, according to over 80% of FX investors, trumping other factors such as prime brokerage, equity and custodial relationships. Service quality, of course, includes the relationship the dealer's sales desk has with its clients. When executing trades worth millions of dollars notional, traders rely on their dealers to provide market color and advice, handle the orders correctly, ensure smooth settlement, and rectify any problems should they occur. In the end, however, the quality of service dealers provide is largely based on the quality of the execution they bring to clients, as shown in the chart below which quantifies the value provided by dealers. That often means achieving the best price, but ultimately, it's about ensuring executions that consistently fit with the client's investment goals.

## VALUE PROVIDED BY DEALERS

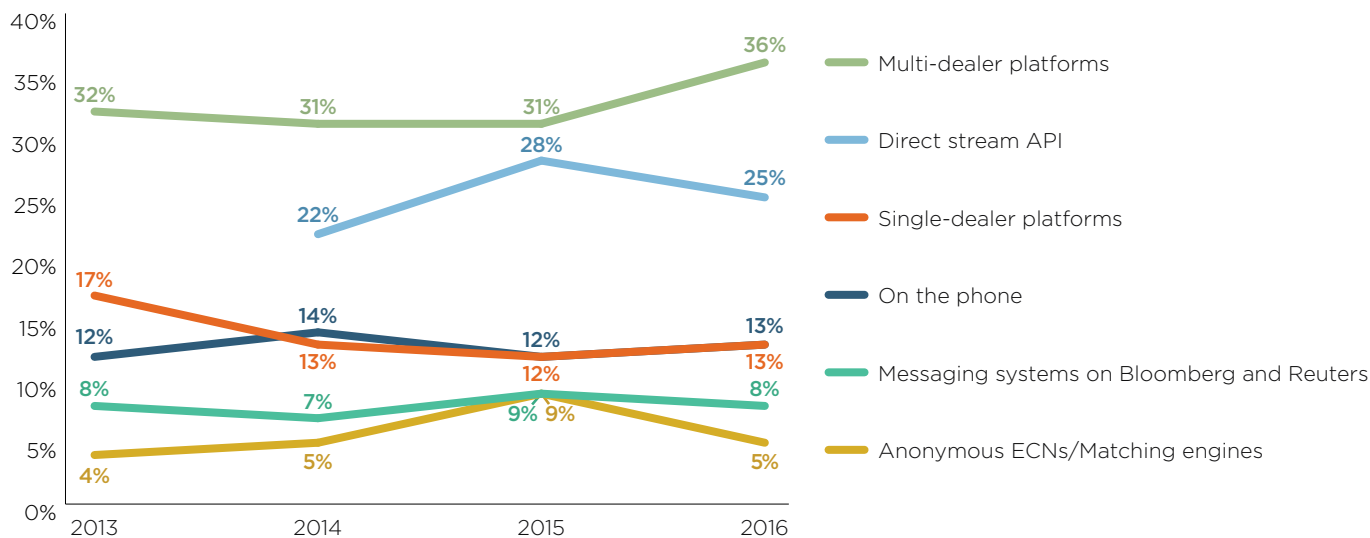


Note: Based on 2,440 responses. Numbers are average rating out of 100 value points.  
Source: Greenwich Associates 2016 Foreign Exchange Services Study

# Electronic Channels Dominate FX Trading

Today, dealers strive to meet those high client expectations through a variety of channels. Investors can trade using more traditional media such as the telephone or chat, or via electronic options such as single-dealer platforms, multi-dealer platforms, electronic communication networks (ECNs), and direct-stream APIs (see Glossary for more details). In total, 79% of FX volume is executed via electronic channels (excluding messaging systems).

## VOLUME-WEIGHTED PROPORTION OF FX TRADING VOLUME BY CHANNEL



Note: Based on 1,102 responses from global top-tier institutions.  
Source: Greenwich Associates 2015–2016 Foreign Exchange Services Study

While this flexibility allows clients to interact with the market in the way that most suits their investment style and needs, quantifying the success of one over the other has become increasingly difficult—especially in a market where trades are routinely quoted out four or more decimal places. As such, traders are more often turning to transaction cost analysis (TCA) to help them measure and benchmark their trading performance and optimize their trading process.

## Usage of FX Algos by Investor Type

Even for those utilizing TCA to help make better trading decisions, taking action on those decisions remains complex. Certainly buy-side traders can adjust their behavior based on counterparty and venue reports, but over time, all will be better served by automating that thought process. Execution algorithms allow traders to automate their flow, intelligently access a greater number of liquidity pools, control market impact, increase spread capture, and minimize information leakage.

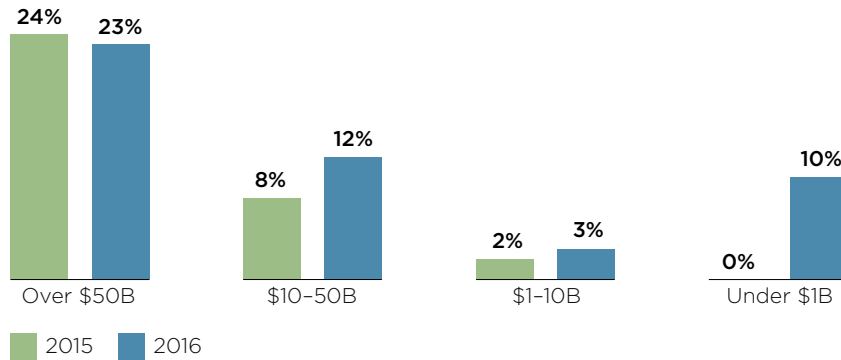
With so much FX volume executable electronically, investors are more frequently turning to trading algorithms to help them apply the insights provided by TCA and, ultimately, improve investment performance. Globally, the number of top-tier investors using algorithmic trading has risen from 13% in 2015 to 15% in 2016. Greenwich Associates expects this number to steadily increase over the next 3 to 5 years, impacting different client segments in different ways.

# Corporates

Among corporates, there is a meaningful increase in both penetration and in the proportion of flow that is executed through algos.

Global corporations need to trade in currencies in order to support their international operations, such as investing in other countries, paying foreign suppliers and managing cash reserves. These types of transactions can usually be spread out over time or delayed, as market conditions dictate. Thus, trading algorithms are attractive to corporates, as they allow them to trade passively and capture the spread on orders, reducing market impact. In addition, algo trading can be done anonymously, thereby reducing information leakage, and it provides access to additional inter-dealer liquidity that is not available via standard bilateral trading channels (e.g., ECNs and matching systems).

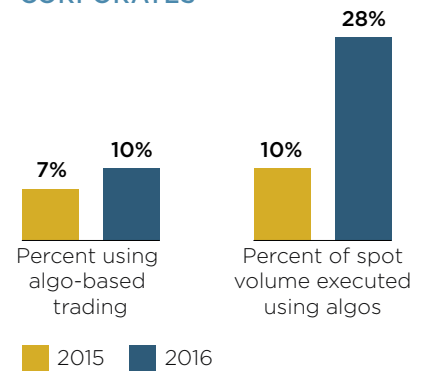
## ALGO USAGE—CORPORATES BY VOLUME



Note: Based on 377 global top-tier respondents.  
Source: Greenwich Associates 2016 Foreign Exchange Services Study

Among the most active FX trading companies—those trading over \$50 billion per year in notional value—23% were using algos for trading in 2016. As can be seen from the preceding chart, algo penetration is also increasing among less active traders, demonstrating that these tools are not just for the biggest, most sophisticated investors. In order to improve trading performance, these users are seeking more transparency and greater control of their order flow. With the average corporation in our study trading \$20 billion per year, each basis point of improvement in trading performance translates to an additional \$2 million straight to the bottom line.

## ALGO PENETRATION AND FLOW—CORPORATES



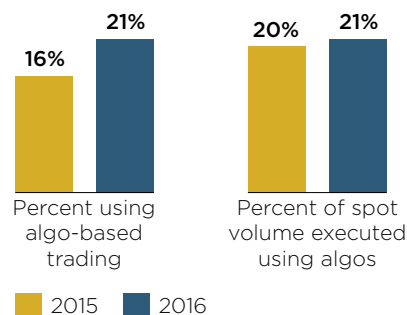
Note: Based on 377 respondents for global top-tier penetration and 39 for algo flow.  
Source: Greenwich Associates 2015 and 2016 Foreign Exchange Services Study

## Institutional Fund Managers (“Real Money”)

Since institutional asset managers were already executing one-fifth of their flow via trading algorithms in 2015, they did not see as large a jump in usage as corporates. However, penetration among these accounts increased by about one-third, from 16% to 21%.

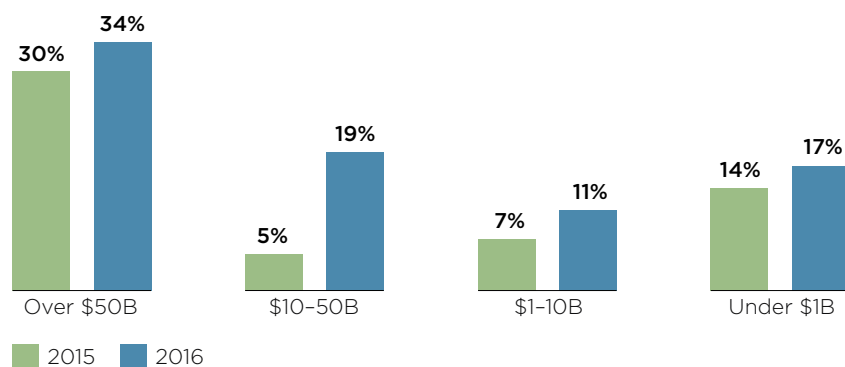
Institutional fund managers and pension plans are often referred to as “real money,” as their FX flows are representative of their long-term investment strategy. Hedge funds, on the other hand, trade more speculatively. Many real-money accounts have already realized the benefits that trade automation via algos can bring to their desk. The increase in penetration suggests that this segment is primed for growth in algo trading as overall FX volumes rise. Among the largest accounts—those that trade over \$50 billion notional value per year—algorithmic trading usage has increased from 30% in 2015 to 34% in 2016. To quote one large global investor, “For high-value trades, we tend to go with those who have the technical tools, such as algos, to handle them.”

### INSTITUTIONAL ASSET MANAGERS



Note: Based on 250 global top-tier respondents for penetration and 53 for algo flow.  
Source: Greenwich Associates 2015 and 2016 Foreign Exchange Services Study

### ALGO USAGE—INSTITUTIONAL ASSET MANAGERS BY VOLUME



Note: Based on 250 global top-tier respondents.  
Source: Greenwich Associates 2016 Foreign Exchange Services Study

## Types/Styles of FX Algos

While FX execution algorithms can share the same names as equity algos, the transition from one to the other is anything but cut and paste. For example, a true VWAP algo is not prevalent in FX, due to the lack of consolidated trade-volume data. And given the dearth of dark pools for currencies, there are no “dark” or “stealth” algos. A table of the most popular types of FX algos is shown on the following page.

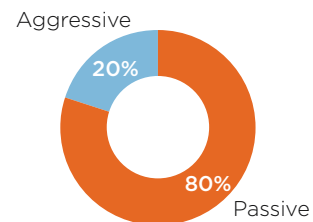
## TYPES OF FX ALGOS

Algo Type	Style	Description
<b>TWAP</b>	Passive	Time-Weighted Average Price. The algo distributes orders evenly over a period of time. This algo is often used to trade during a fixing as the fixing price is itself a time-weighted benchmark price.
<b>Float</b>	Passive	With this algo, orders are pegged passively to the near touch and are able to capture the spread by trading against incoming aggressive orders.
<b>SOR</b>	Aggressive	A smart order-routing algo is typically used to rapidly execute smaller orders by simultaneously routing to numerous liquidity venues.
<b>VWAP</b>	Passive	True VWAP is not possible in FX markets without a consolidated tape of all trades. Many vendors try to replicate a VWAP trading style by estimating market volume.
<b>POV</b>	Passive	True Percent of Volume algos would require a consolidated tape of all trades, but in FX markets, vendors replicate this product using estimates of market volume.
<b>Fixing</b>	Passive	This algo is designed specifically to try and achieve a fixing benchmark price.

In general, FX investors currently use algos predominantly for passive trading. If they want to trade an order aggressively, they will more often choose to interact directly with streaming quotes (without paying a commission as they would if using an aggressive algo). In aggregate, passive algos attract 80% of the spot algo flow. Among the different types of institutions, hedge funds and fund managers are slightly more likely to use aggressive algos compared to corporates.

According to Greenwich Associates data, over 20 global banks offer FX algorithms, although only a dozen or so have meaningful penetration. To properly compete in the market for FX algos, a sell-side firm must commit dedicated quantitative research and development staff to the product. Many brokers unwilling to commit internal resources to FX algos choose to license or “white label” algos from another dealer or to engage a third-party provider to help deliver a customized product.

### PERCENT OF SPOT VOLUME EXECUTED BY TYPE OF ALGO USED



Note: Based on 117 respondents.  
Source: Greenwich Associates 2016 Foreign Exchange Services Study

# Key Considerations for Selecting Algo Trading Providers

Ease of use is the most important criterion for FX traders in selecting an algorithmic trading counterparty. While providing customization is appealing, it often translates into complexity—which is the opposite of what the buy side is looking for. When executing trades with significant notional value, simple and transparent orders are best.

Next in importance are access to high-quality liquidity and execution quality, further demonstrating the strong focus on best execution for FX traders. This can mean different things to different investors—some want the lowest possible price, others seek limited information leakage, while others just want the order done as quickly as possible. To that end, it is also notable that commission cost is not one of the top three factors considered, leaving us to again conclude that execution quality ultimately wins the day.

## ALGO SELECTION CRITERIA



Note: Based on 124 global top-tier responses.  
Source: Greenwich Associates 2016 Foreign Exchange Services Study

While most banks will offer FX algorithms to buy-side investors who prefer their internal, proprietary liquidity pools and access to some ECN liquidity, other third-party providers offer algos that can trade across multiple bank liquidity pools in addition to ECNs. These offer more options when it comes to liquidity sourcing, but execution using these algos will include commissions (there is no explicit fee for an order internalized by the dealer).

A few years ago, paying commissions on FX trades was not widely accepted. But now, Greenwich Associates data shows that FX traders are increasingly willing to pay a commission in order to gain increased control over the execution process. Traders are recognizing that trading directly with dealers includes implicit costs embedded in the spread, and that overall trading costs can be reduced when utilizing an algo, even when taking into account explicit commissions.



## PREFERRED ALGO/DIRECT MARKET ACCESS TOOLS



Note: May not total 100% due to rounding. \*No commission. \*\*In exchange for paying commission. Based on 98 global top-tier responses in 2015 and 124 in 2016. Source: Greenwich Associates 2016 Foreign Exchange Services Study

Historically, banks felt they needed to build their own proprietary algorithmic trading suite in order to win this type of business. However, attitudes are changing and customers are more concerned that their dealers are using the best technology available regardless of whether it was internally developed. In our recent Market Structure and Trading Desk Technology Study, 82% of customers were comfortable trading with a dealer who outsources their algos, as they are more concerned about the overall quality of service, total relationship and (of course) quality of execution than the source of the technology.

## FX TCA Usage Will Continue to Increase

Traders increasingly turned to FX TCA following the 2013 fixing crisis.<sup>1</sup> Almost a third—31%—of institutional asset managers now use TCA as part of their trading process. Even among corporate FX traders, 8% now use transaction cost analysis. This may not sound like much, but considering that these companies are not financial institutions, it is a strong sign of increasing sophistication by FX end users.

TCA and algo usage often go hand in hand. If a trader uses TCA to help identify an improved trading strategy, they may well choose to implement the strategy using algos. Similarly, if a trader uses an algo to achieve a TWAP benchmark, for instance, they will want to use TCA to verify that the algo performed appropriately. As such, we should expect to see TCA usage grow in line with increases in algorithmic trading.

<sup>1</sup> In 2013 major banks were discovered to be colluding to influence the main FX benchmark rates, off which many trades were priced.

# Regulatory Impacts

It should also be noted that the pending MiFID II regulations and the FX Global Code of Conduct will likely lead to an increased focus on best execution, which again, given the complexity of the market, can only be quantified via TCA and similar analytic tools.

MiFID II will require European investment firms to comply with more stringent best execution requirements. Although spot FX is an excluded asset class from the MiFID II regulations, FX forwards, swaps and options are not. Thus, it is likely that many investment firms will extend best execution policies to spot FX. This will lead to increased scrutiny of execution quality and possibly increased usage of trading algorithms.

Last year, the initial phase of the FX Global Code of Conduct outlined the principles of ethics, information sharing, certain elements of order handling and trade execution, and confirmation and settlement to be adhered to in foreign exchange markets. The final completed version of the Code, published in May 2017, covers further aspects of execution including electronic trading, FX platforms, prime brokerage, as well as governance and compliance.

## Conclusion

While relationships still matter a great deal, electronic trading dominates the foreign-exchange market. The electronification of the market has yielded great benefits to institutional investors, but it has also created a sometimes tangled web of liquidity sources that require sophisticated technology to untangle. As a result, execution algorithms are increasingly penetrating the buy side and corporates, as they seek to improve their quality of execution.

This desire for control and transparency around trading has led to increased usage of both TCA and trading algorithms, with different customer segments adopting in various ways and at different speeds. These tools allow traders to reduce market impact and increase spread capture by trading passively when appropriate, and to reduce information leakage, automate flow, and access additional inter-dealer liquidity.

As a more diverse set of market participants competes for liquidity in currency markets, longer-term FX traders are beginning to appreciate the value that algorithms provide in terms of control, anonymity and performance. The long-term pattern for algorithmic trading among these users will continue upward and to the right.

## GLOSSARY

**Messaging Systems**—Bloomberg, Thomson Reuters and other systems offer chat functionality for dealers to communicate with their clients. In the FX market, a sizeable volume of trades is conducted via this medium.

**Single-Dealer Platforms**—Provided by banks and FX dealers, these products provide a method for clients to view pricing information and execute orders. Most bulge-bracket banks offer a proprietary SDP to their clients.

**Multi-Dealer Platforms**—These products integrate the liquidity of multiple dealers into an aggregated order book. This enables dealers to potentially offer deeper liquidity and tighter spreads than SDPs, which accounts for their deeper penetration in the market.

**Anonymous ECNs and Matching Engines**—These are lit order books that allow subscribers to post bids and offers in different currency pairs.

**Direct-Stream APIs**—A direct API (Application Programming Interface) connection from dealers and other liquidity channels into their OMS/EMS or trading model. Investors can execute orders directly via a direct-stream API.

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