

EDITION

4

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# FXall: Best practice guide

## Foreword

With ever-increasing pressure on market operators to produce greater profits and higher levels of service to clients, the need to promote and implement good market practice has never been greater; this has always been one of the foundation stones of ACI, The Financial Markets Association (“ACI”). ACI’s Committee for Professionalism (“CFP”) is responsible for all issues relating to good market practice and is an advisory body charged with the following responsibilities:

- It formulates and proposes guidelines, both technical and ethical, concerning the operations of the markets and the professional activities of ACI members, as laid down in ACI’s book of good practice, “The Model Code” (which may be found via the following link - [http://www.aciforex.com/gb/aciforex-page.cfm?page\\_id=66](http://www.aciforex.com/gb/aciforex-page.cfm?page_id=66));
- At the request of the parties concerned, it gives advice and offers arbitration services on professional disagreements or problems having an international character; and
- It formulates and proposes policies and guidelines establishing the educational and professional standards for members of ACI.

The “over the counter” (“OTC”) market is not regulated in the way that the organized exchanges are regulated, where trading takes place publicly between set hours in a centralized location and where trading practices are regulated by the particular exchange, so ACI’s “The Model Code” seeks to clarify common market practices in the OTC market and offers “good practice recommendations” with respect to trading activities, relationships, and other matters.

In recent years we have witnessed a dramatic rise in the volume of electronic trading in the OTC market and this now represents a very substantial proportion of the OTC transactions undertaken globally. The ethics and good practice guidelines promoted by ACI apply as much in electronic trading as they do “person to person”, so any effort by electronic trading providers, such as that being demonstrated by FXall through its Best Practice Guide, to augment ACI’s guidance with their own recommendations is to be welcomed and encouraged.

All market participants, whether users or providers, have a shared responsibility to ensure that they operate to the highest expected standards; by doing so we will achieve our objectives of maintaining confidence and integrity in the OTC market, keeping it largely unregulated while giving all participants the opportunity to produce high levels of service and profitability.



# Introduction

## Unprecedented change in FX

**In the rapidly moving world of FX, we hope that this handbook, published by Euromoney and FXall, will bring you profitable insights into best practice**

Nine months into one of the greatest periods of turbulence the global financial system has ever endured, increased regulation is likely. It seems certain that banks and other financial institutions will emerge from the credit crunch with stricter controls on how they act and how they report their actions. While such reforms are likely – in the first instance – to be focused on mortgage and structured credit markets where the current turmoil originated, the foreign exchange markets may also be affected.

Already, foreign exchange market participants have been influenced by new regulations in relation to how their deals are transacted and valued and how they monitor and control risk and explain their guidelines on risk to their clients. Sarbanes-Oxley in the US and the European Commission's Markets in Financial Instruments Directive (MiFID) have changed the FX market beyond recognition in recent years. In addition, the advent of new foreign exchange venues has given rise to greater choice and liquidity than in the past and accelerated the pace of change in the business.

In this year's edition of the Euromoney/FXall Best Practice in Foreign Exchange Markets Handbook, we hope to bring you new insights into some of the challenges facing foreign exchange market participants. In the current market environment and with ever more onerous reporting and accounting standards, best practice continues to be a priority for participants in the institutional foreign exchange market.

In our article on MiFID, we look at the reality of implementation since 1 November 2007. A second aspect of best practice relates to the ever-evolving best practice guidelines released by industry bodies, such as the Emerging Markets Traders Association, the International Swaps and Derivatives Association and the Foreign Exchange Committee. These and other bodies have been active in helping to develop the non-deliverable forward (NDF) market.

In our second article, we examine the causes of the rapid growth of NDFs, especially in markets in Asia such as China, India, Korea and Taiwan. A third driver of market participant interest in best practice is the desire to maximize efficiency and enhance performance. In our third and fourth articles, we focus on algorithmic trading and transaction cost analysis (TCA) – two areas of tremendous interest and potential in the FX markets.

The use of algorithmic trading, or auto-dealing, has grown at an enormous pace in recent years and we assess whether that can continue in the face of the reduced

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liquidity and increased volatility experienced in the foreign exchange market since August 2007. We examine the impact of algorithmic trading on market volatility and liquidity and what benefits and risks it brings to different types of market participants.

TCA analyzes price information and on the face of it sounds like an ideal solution for many FX market participants. It is already a huge force in the equity world. But, as everyone knows, FX is traded differently to equities or fixed income, where TCA is of increasing importance. This handbook, published by Euromoney and FXall, is now in its fourth year and has a wide readership among FX traders in every type of institution – more than 30,000 copies were printed and distributed in 2007. We hope that it will bring you new ideas and enable you to trade more knowledgeably, effectively and profitably.

A handwritten signature in black ink, appearing to read "Phil Weisberg". The signature is fluid and cursive, with a long horizontal stroke at the end.

Phil Weisberg, CFA  
Chief Executive Officer, FXall

## MiFID: unexpected consequences

The introduction of MiFID has prompted an unexpected decision by banks that could have lasting repercussions for London's FX market

The European Commission's Markets in Financial Instruments Directive (MiFID) finally arrived on 1 November 2007, having been postponed from its original April launch date. In truth, the introduction of MiFID – which applies across the 30 member states of the European Economic Area (the 27 member states of the European Union and Iceland, Norway and Liechtenstein) – was scarcely noticed outside the immediate community of those concerned with its implementation.

In many respects, the absence of a 'big bang' was a positive. "There was a huge effort made in the 24 months preceding the introduction of MiFID in relation to compliance. So, for many people, once it arrived there was little commotion," says David Clark, chairman of the Wholesale Market Brokers Association (WMBA) and honorary president of the ACI (the Financial Markets Association). "The vast majority of the wholesale market was prepared – although clearly not everyone was."

But while MiFID's impact on its first day may have been muted, its broader affect on the behaviour of market participants is now being felt. Indeed, some market observers fear that the foreign exchange market may have reacted to MiFID in such a way as potentially to invite further regulation, to the detriment of trading volumes. "If there were to be greater regulatory involvement in the FX market as a result of MiFID, it would have a profound impact on the London market – which accounts for a third of global FX volumes and dwarfs all other European markets," says Clark.

### Interpreting Article 21

MiFID's objectives are simple and explicit. It aims to strengthen investor protection throughout the European Union (EU), improving the transparency and efficiency of European financial markets and allow investment firms to provide services across all member states based on the authorization of their home jurisdiction. The most important element of MiFID is Article 21, which requires firms to "take all reasonable steps to obtain, when executing orders, the best possible result for their clients, taking into account price, costs, speed, likelihood of execution and settlement, size, nature or any other relevant considerations".

MiFID is primarily designed to protect retail and other, less-sophisticated investors and does not apply to wholesale markets. According to WMBA's Clark, up to 90% of the \$3.2 billion-a-day currency market is conducted by non-retail participants – making it a far more wholesale-dominated market than equities or fixed income. It is therefore far less subject to Article 21's requirements regarding best execution. In practical terms, the FX spot and commercial forwards markets have been excluded from MiFID, while so-called ancillary services, where an FX product is explicitly attached to an underlying investment product, are subject to MiFID.

One requirement of MiFID is that banks and other financial services providers are required to categorize their counterparties as retail, professional or eligible. Retail investors are afforded the most regulatory protection under MiFID. Professional clients are afforded fewer regulatory protections on the basis that they are considered to be more experienced, knowledgeable and sophisticated than retail clients. Eligible counterparties, which consist of regulated financial institutions and sophisticated investors, have the least protection and enjoy a light-touch regulatory regime. In relation to Article 21, eligible investors do not require proof of best execution while professional investors do.

As Clark explains, some banks have decided to treat many of their counterparties as professional rather than eligible – and thus requiring proof of best execution. “The rationale for the banks’ decision to treat a large number of their counterparties as professional, and therefore subject to demonstrating best execution, is to enable them to comply with MiFID as early as possible and offer the opportunity to opt up to eligible in due course,” he says.

The MiFID definition of an eligible counterparty as a business that comprises “executing orders and/or dealing on own account transactions and/or receiving and transmitting orders with eligible counterparties” neatly defines most of the FX market and therefore the decision by some banks to treat many of their counterparties as professional rather than eligible is surprising, according to Clark. “This could not have been expected to the extent that it has happened,” he says. “The rush towards the middle ground of defining counterparties as professional as opposed to eligible is a key – and unexpected – consequence of MiFID compliance.”

Mark Warms, global head of sales and marketing at FXall in London, believes that the decision to demonstrate best execution to most clients is not quite as simple as classifying them as professional rather than eligible. “It is not the case that all clients have been classified as professional. Rather, in some instances, it may be the case that banks have devised best execution policies –

“If there were to be greater regulatory involvement in the FX market as a result of MiFID, it would have a profound impact on the London market – which accounts for a third of global FX volumes and dwarfs all other European markets.”

*David Clark, chairman, Wholesale Market Brokers Association (WMBA)*

that specify, for example, how the bid/offer rate is captured – and then have simply automated the process so that all clients have best execution demonstrated to them. Indeed, there may be investors classified who want to be professional rather than eligible because they want to be able to demonstrate best execution to their own clients.”

For those clients that do require it, the practicalities of demonstrating best execution in most FX markets are usually straightforward. “In major currencies, it would be easy given the liquidity available,” says Clark. Tim Cartledge, head of FX options and electronic FX trading at Barclays Capital in London, agrees: “In normal conditions, the FX market is extremely efficient. It’s not like you’re dealing with an illiquid stock that is easy to move. FX is the world’s most liquid market and you can do almost any size [of trade] in one block.” For many banks, the establishment of a best execution policy and the ability to record best execution details for each trade has been easily automated and relatively straightforward.

However, Clark points out that there are exceptions to this rule. “In an extreme example, if you trade an option on a non-deliverable forward it simply may not be possible to do it on a best execution basis because of the lack of liquidity,” he says. Problems also arise in proving best execution on structured products, which are explicitly covered by MiFID because they include a number of individual trades. “For example, when FX products, such as an option, are used to hedge another product, such as fixed income or equity products, demonstrating best execution for the FX element when it is part of a package is very problematic,” explains Clark.

### **How MiFID might evolve**

Some observers are concerned that the decision by many banks to treat most investors as professional and therefore requiring proof of best execution could set a dangerous precedent. The danger posed by the classification of the majority of the market as professional rather than eligible is that it could lead to calls for widening the scope of MiFID to include the broader FX market, according to Clark. “If best execution were to have to be applied across the board, the FX market would move out of London. Quite simply, the market could just move elsewhere – and very fast – if a requirement to demonstrate best execution was applied indiscriminately.”



David Clark, chairman, Wholesale Market Brokers Association (WMBA)

“A specific tightening of regulatory control in FX is extremely unlikely. It is easy to show that the market is already extremely efficient and as transparent as any over-the-counter market can be.”

*Tim Cartledge, head of FX options and electronic FX trading,  
Barclays Capital*

The introduction of Sarbanes-Oxley in the US in 2002 has shown that, for small and medium business, the cost of administration can increase to such an extent that they become prohibitive and drive business away.

Cartledge at Barclays Capital agrees that there is a – limited – risk that FX could inadvertently slip into a tighter regulatory framework, both as a result of MiFID and the broader financial crisis now affecting markets. “All market participants are aware of the potential for tighter regulatory control of the FX market and are eager to avoid creating a situation where such a tightening would be possible,” he says. “However, a specific tightening of regulatory control in FX is extremely unlikely. It is easy to show that the market is already extremely efficient and as transparent as any over-the-counter market can be.”

In all likelihood, banks – having fulfilled their regulatory requirements in relation to MiFID as simply and as easily as possible by classifying most of their clients as professional – will, over the next six months, begin to contact their clients with a view to reclassifying those to which it matters most as eligible.

# non-deliverable forwards (NDFs)

## NDFs: the only way is up?

Non-deliverable forwards have been among the foreign exchange market's greatest success stories in recent years. But who is using these products and what hurdles lie in the way of further growth?

Although the financial markets have been increasingly turbulent over the past year, the long-term trend of globalization continues unabated. More specifically, the growth of emerging markets investment and the massive shift of manufacturing to low-cost countries such as China have exponentially increased demand for trading in emerging markets currencies.

The Bank for International Settlements (BIS) 2007 survey of FX market turnover, widely regarded as the most comprehensive measure of FX trading, reports that emerging markets currencies were involved in almost 20% of all transactions in April 2007. However, in many emerging markets, foreign entities are restricted from trading in the onshore forward market by exchange controls or central bank regulations. The response to this has been the creation of non-deliverable forwards (NDFs), which are traded over the counter and are technically contracts for difference.

The NDF market developed in the early 1990s as a means for corporations to hedge against depreciation in non-deliverable currencies. "Before that, people wouldn't have had any way of hedging exposures to currencies in those markets," says Martin Smith, chief dealer, Emerging Markets FX in Standard Chartered Bank's London office. "Although corporations might have been able to hedge through the onshore market, because they had underlying physical assets in the country, it was always difficult to gain access to those markets."

The NDF market has grown rapidly in recent years and now accounts for a significant proportion of trading in many emerging markets currencies. "The total traded volume in the NDF market has grown in leaps and bounds," says Rudi Kuan, global head of Asian FX Emerging Markets at Standard Chartered Bank. "For example, if you look at the Korean won market, including onshore spot, it does about \$8 billion a day, of which around \$3.5 billion is transacted in the NDF market. Three years ago, this NDF number was closer to \$1 billion in an overall market of about \$3.5 billion a day, so the NDF market is growing at a faster rate than the overall Korean won market."

Asoka Markandu, general manager of FXall Asia, says that the trend is set to continue in the short to medium term. "The use of NDFs is part of a larger structural change in growth, which is becoming more focused on emerging markets," he says. "As more emerging markets open up to foreign investment – and they themselves become more aware of their importance in the global market – it is inevitable that there will be greater demand for emerging markets currency hedging."

The growth of NDFs is set to continue. Markandu believes that there is little possibility

# non-deliverable forwards (NDFs)

in the short term that countries such as China, India, Korea and Taiwan will seek to deregulate their currencies. “They monitor their export market closely so having a policy ensuring a stable currency is paramount,” he says. Indeed, even over the medium term, of the major regulated Asian markets, only India is a possible candidate for liberalization.

## Who uses NDFs?

The growth in NDFs is coming from a broad range of participants including banks trading on their own account, companies, hedge funds and commodity trading advisors. “The breadth of the NDF market in terms of the types of entities involved has been a significant factor in its growth,” says Markandu at FXall.

Much of FXall’s NDF business is driven by demand from corporates. “Companies want to see a multi-bank offering that meets their hedging needs,” says Markandu. “Certainly, the activity we observe in the market results from trade flows rather than speculation.” That is not to say that there is not a strong speculative interest in NDFs. While in the years immediately following the Asian currency crisis in 1998, many investors reduced their exposure to Asian currencies, there has recently been a resurgence of interest from hedge funds and other investors. According to a report published by the Federal Reserve Bank of New York, as much as 60-80% of NDF turnover is generated by speculative activity, a trend driven by growing participation from international hedge funds.

Jasmine Tan, senior corporate sales at Standard Chartered Bank, explains that the proportion of trading activity from each type of client depends on the currency being traded. For example, while the Taiwan dollar and Korean won NDF markets see a lot of corporate flows, the Chinese yuan has attracted a great deal of interest from hedge funds: “International corporations operating in China usually settle in US dollars, so they are not big users of yuan NDFs. Most of the activity in short-dated yuan NDFs comes from hedge funds and other investors looking to profit from the rising value of the currency.”

Interestingly, the increasing use of NDFs by corporates involved in emerging markets – and the growing sophistication of NDF use – is not just coming from European



Asoka Markandu, general manager, Asia, FXall

or US corporations looking to hedge their exposure to Asian, Latin American or Eastern European currencies. As Asian corporations increase their exports, they too are looking to hedge their currency exposures, as Standard Chartered Bank's Kuan notes: "If you look at the trend in dollar-Asian markets over the last couple of years, it is natural that many of the corporations in Asia are looking to hedge the dollar risk against their own currencies."

### **Furthering standardization**

The growth of the NDF market has been impressive in recent years but market observers believe it could accelerate further if NDF contracts are standardized further. Work has been ongoing on standardization since the late 1990s, with the Emerging Markets Traders Association (EMTA) working with other bodies including the International Swaps and Derivatives Association (ISDA), the Foreign Exchange Committee (FXC) and the Singapore Foreign Markets Committee (SFMC), to create standardized NDF documents and promote best practices.

According to Leslie Payton Jacobs, senior legal counsel at EMTA, the process of standardization began with the 1998 FX and Currency Options Definitions, on which EMTA collaborated with ISDA and the FXC. Annex A to this document defines a basic architecture for NDFs, which has been amended and updated over the years to take into account new market developments. In addition, EMTA has been involved in developing standard terms for confirming NDF trades, which utilize the definitions. While the confirmations are not identical for each currency pair – each currency is subject to different dynamics and different potential pricing disruptions – there are broad principles that run across all the currency pairs.

In 2000, based on the 1998 FX and Currency Options Definitions, EMTA began to develop standardized confirmations for major NDF currencies. Payton Jacobs says: "There was market consensus that we needed to standardize some form of confirmation in order to help trading, which would clear up the documentation backlog that had been created by the ad hoc use of different forms of confirmations throughout the industry." EMTA began with the five most widely traded NDF currencies – and has continued to add additional currency pairs over the years. The number now stands at 13: USD/ARS, USD/BRL, USD/CLP, USD/CNY, USD/COP, USD/IDR, USD/INR, USD/KRW, USD/MYR, USD/PEN, USD/PHP, USD/RUB and USD/TWD. As a result of this harmonization, the industry has virtually eliminated the confirmation backlog.

In December 2006, EMTA, the FXC and the Bank of England's Joint Standing Committee (FX JSC) introduced a bilateral master agreement for NDF transactions designed to simplify the NDF process. In the autumn of 2007, a multilateral master agreement was published which was intended for use by service providers and

# non-deliverable forwards (NDFs)

settlement systems. Payton Jacobs explains that while the documentation was very clearly laid out, its complexity meant that confirmations could still take up considerable time in the back office. “It is not as time-consuming as negotiating an individual contract with every counterparty, but it certainly takes more time than trading in the deliverable market.” The master confirmation agreements, by incorporating references to the underlying EMTA terms, allow participants to streamline the content of NDF confirmations to material economic terms.

Payton Jacobs says that in addition to standardizing documentation, EMTA also works to develop market practices that “smooth out differences in the market by creating market-wide best practices where none existed previously”. This is done through extensive consultation with EMTA’s membership, which includes most of the world’s leading foreign exchange banks. “The resulting best practice recommendations are adopted and used by the EMTA membership and then the market as a whole tends to absorb them by osmosis – in a very effective trickle-down,” says Payton Jacobs.

“A huge amount has been achieved since NDFs appeared in the FX market but it is clear that greater standardization would increase volumes further – as it has in other markets where such principles have been applied,” says Markandu at FXall. One area where standardization is required, for example, is documentation for non-deliverable options and NDFs that are not settled in dollars. “The absence of standardized terms for non-dollar settled NDFs introduces unnecessary uncertainty into the market,” says Markandu. Non-dollar NDFs are usually structured as dollar NDFs with a further, for example, euro-dollar NDF attached. As convertible currency pairs such as euro-dollar do not have standard fixing pages, corporates trading NDFs against currencies other than the dollar need to make sure they understand how this second leg is fixed.

Similarly, simple changes – such as the provision of separate ISO codes for onshore and offshore currency codes – would do much to reduce confusion and boost the market.

## **Automation is crucial**

Second only to furthering standardization, increased levels of automation in NDF trading could prove the greatest boost to NDF

“The use of NDFs is part of a larger structural change in growth, which is becoming more focused on emerging markets. As more emerging markets open up to foreign investment it is inevitable that there will be greater demand for emerging markets currency hedging”

*Rudi Kuan, global head of Asian FX Emerging Markets, Standard Chartered*

volumes, according to FXall's Markandu. "Like standardization, this is something that is changing and consequently bringing benefits to market participants," he says. "As regional and international banks build their business in Asia, it will become increasingly more straightforward to price NDFs automatically and encourage further trading. But the whole market needs to be focused on how crucial automation could be."

While online FX trading has boomed over the past five years, with an estimated 55% of the buy side now trading spot FX online, NDF trading has trailed the deliverable market in terms of automation. One estimate puts the proportion of NDF trading done electronically at approximately 2%. This is due to two principal factors. Firstly, market participants have simply had less incentive to invest in automating NDFs than in higher-volume, lower-value instruments. Secondly, NDFs have historically been more difficult to automate than instruments such as spot or forward outrights. This is both because they are a more complex instrument – the requirement to specify a fixing mechanism and fixing date introduces an additional layer of complication – and because, until recently, they have not been standardized. "NDFs are not as straightforward to automate as FX spot contracts – it is a little more intricate. There are many different ways of confirming trades, and every bank has got different systems," says Kuan at Standard Chartered.

However, this stumbling block is being overcome as EMTA and other market bodies work to standardize NDF documentation. Payton Jacobs says that this is an essential precursor to automation. "You have got to have a baseline of standard definitions and terms before you can have an automated format," she says. "With this in place, the market can begin to move towards automation, and the new master confirmation agreements are likely to help drive this."

For those banks with electronic NDF pricing capabilities, most models follow one of two methods: either quoting a fixed contract that gradually gets closer and closer to spot, or electronically posting one-month, three-month and six-month prices from which all other prices are derived. Until recently, little has been done to automate the NDF trading process for the buy side, but over the past year several banks and online trading platforms have introduced support for NDF trading and confirmations. "At FXall, we have been hearing from our clients that they increasingly require the ability to automate agreeing their NDF fixing dates through to confirmation, in an automated way" explains Markandu, "so this is something the market is aiming to deliver".

### **The importance of transparency**

While the practical trading aspects of standardization and automation would do much to further the use of NDFs, one barrier to increasing NDF volumes is harder to tackle.

# non-deliverable forwards (NDFs)

While many central banks are aware the NDF trading takes place in their currency, they are reluctant to issue a policy on it and take an arm's length approach. Banks, of course, want to ensure that their activities are compliant with the regulators because they require access to their markets.

One consequence of this is that only a few banks are prepared to automate pricing and marketing of NDFs to domestic corporates despite the myriad benefits of their use for a wide range of companies. Obviously, if the corporates approach the banks themselves, the banks are happy to talk about NDFs. But banks' reluctance to increase automation of NDF trading is potentially slowing the growth of the market. The NDF market has grown because of the absence of deliverability in many increasingly important currencies and many observers believe that, where possible, banks should be actively promoting solutions to this problem.

## How NDFs work

Non-deliverable forwards (NDFs) function like a forward contract for non-convertible currencies, allowing traders to hedge exposure to markets in which they are not able to trade in the underlying physical currency. Rather than delivering the underlying emerging market currency, the contract is settled by making a net payment in a convertible currency – usually US dollars – proportional to the difference between the agreed forward exchange rate and the subsequently realized spot fixing.

This fixing is a standard market rate set on the fixing date, typically two days before the forward value date. The basis of the fixing varies according to the currency, but can be either an official exchange rate set by the country's central bank or other authority, or an average of interbank prices displayed on Reuters at a specified time. NDFs are distinct from deliverable forwards in that they trade outside the direct jurisdiction of the authorities of the corresponding currencies and their pricing need not be constrained by domestic interest rates.

“If you look at the trend in dollar-Asian markets over the last couple of years, it is natural that many of the corporations in Asia are looking to hedge the dollar risk against their own currencies.”

*Rudi Kuan, global head of Asian FX Emerging Markets, Standard Chartered*

## Algorithmic trading weathers the storm

### What impact has increased market turbulence and reduced liquidity had on the increased use of algorithmic trading in the past nine months?

The march of algorithmic trading, or auto-dealing, has looked unstoppable in recent years if the volume of articles and conference discussions on the topic are any indication. But how widespread is algorithmic trading and what impact has it had on the market? How has the recent market instability and reduced liquidity affected the growth of algorithmic trading? What benefits does it bring to market participants and what risks does it pose? And, most importantly, is it actually worthwhile?

First, it is important to define what algorithmic trading means. According to the Foreign Exchange Committee (FXC), “auto-dealing refers to algorithmic trading models that employ electronic price feeds to generate dealable prices and transact based on dealable prices”. Jeremy Smart, global head of FX e-commerce sales at Morgan Stanley in London explains that it is helpful to define two elements of algorithmic trading.

The first is so-called black-box trading where a machine, or a program, makes decisions about when to trade, based on an input strategy, delivers the trade requirements and executes the trade. “It is auto-trading in its broadest sense and has come to be a central part of trading for many different types of institutions. Investors and other market participants use it to execute their strategies while banks use it to automatically hedge risk or clear positions,” explains Smart.

For example, auto-trading can be used to identify arbitrage between available prices on an individual platform or between platforms or within risk-taking models that respond quickly to events that can be monitored electronically (such as data releases) and execute orders across multiple systems. Similarly, it can be used in price aggregation on trading platforms where a single commingled price is posted at any time.

Auto-trading has largely driven the growth in electronic trading. Market estimates show auto-trading as representing around 40% of trades with volumes up as much as 30% a year earlier. “Electronic trading is probably close to a tipping point in terms of its relation with voice trading,” says Smart. “We are likely to reach a point next year when electronic trading overtakes voice and that could accelerate the growth of electronic trading.” However, Smart says it is wrong to see electronic trading as cannibalizing voice trading. “Voice is continuing to grow,” he says. “It’s just that algorithmic trading is growing much faster. People who claim that machines are taking over the market are exaggerating.”

### Market volatility

Morgan Stanley’s Smart says that he has not perceived any decline in levels of electronic trading as a result of the increased volatility in foreign exchange. “Rather the market conditions have increased volumes for both voice and algorithmic trading,” he says.

What the unsettled markets have done, is stress test the auto-trading systems of market participants. “The volatility has tested both the trading strategies and the capacity and robustness of their systems,” says Smart. “Some people have prospered and some have not.” Smart says that, in due course, various market participants will adapt their algorithms to cope with changed circumstances. “Ideally, you need to have a variety of algorithms at your disposal and be able to switch between them rapidly to accommodate different markets.”

Tim Cartledge, head of FX options and electronic FX trading at Barclays Capital in London, says that, generally speaking, electronic trading has reduced volatility because it has opened the market up to a greater number of participants, specifically in market-making. Some observers believe that the current spell of turbulent market conditions has reduced the role of hedge funds into market-making and consequently reduced liquidity. However, this is not a universal view: some hedge funds do remain in the market and moreover, there are doubts as to whether hedge fund market-making was of a sufficiently large scale to impact liquidity.

## **Algorithmic execution**

A second element of algorithmic trading, as defined by Smart, is algorithmic execution, which more specifically deals with when a trade is conducted. Algorithmic execution uses concepts such as volume-weighted average price (VWAP) and time-weighted average price (TWAP), which are common in the equities market. “Algorithmic execution is growing rapidly – probably more rapidly than the algorithmic trading market as a whole,” says Smart. He says that market changes such as the European Commission’s Markets in Financial Instruments Directive (MiFID) and the growing acceptance of transaction cost analysis (TCA) is driving the growth of algorithmic execution.

“There is an increasing appetite among investors to find the real cost of entry and exit in a transaction,” says Smart. The pressure is mainly coming from real money accounts. “Investors previously saw e-commerce simply in terms of straight through processing,” he says. “Now, the changed regulatory environment – among other issues – is focusing them on proof of execution. They want to be able to say to their own clients that they did more than just call five banks to get the best price. Algorithmic execution provides them with physical reporting of execution versus the market.”

Smart says hedge funds are also increasingly using algorithmic execution – albeit for different reasons. “Generally, it is used for large trades with the goal of more efficient execution,” he says. “So, for example, rather than doing Sfr20 million of Swiss franc/yen it might make sense to do 10 clips of Sfr2 million. Getting a machine to do

that over 20 minutes frees up a trader's time to focus on the big tickets.” In addition, one of the main benefits of algorithmic execution for hedge funds is the ability to trade in size without moving the market.

According to some banks, algorithmic execution – while still in a long-term growth trend – has become less of a priority to many clients in recent months as volatility has increased. “When the markets are quiet and liquid, there is an attraction to a strategy that allows clients to manage their own risk and execution,” he says. “But as liquidity has reduced the chances of execution going against you and having a profit and loss impact has increased, clients have increasingly wanted the certainty of a one-hit trade. Participants understandably ask themselves whether these are the right type of market conditions to be experimenting with how they trade.”

### **Who will make the most of algorithmic trading?**

While algorithmic trading has long been accepted in the equities and fixed income market as cost efficient, the picture has been less clear in foreign exchange. “There may well be a cost saving but it is arguable whether the saving is sufficient to justify the costs,” says Cartledge. “The FX market is, in most instances, extremely liquid: it's not like the equity market where if you want to shift 10% of a mid-cap stock you have to use algorithmic trading to avoid disrupting the market. In FX, you might spread your trade over a minute and save yourself half a pip.”

Moreover, FX has a facet that the equity market never could have, according to Smart at Morgan Stanley. “There are a lot of people in the FX market that don't trade for profit but need currency to settle a transaction, or buy goods or hedge a corporate balance sheet,” he says. “These people have real exposure that they want to transfer the risk of and they are happy to pay for that transfer. Algorithmic trading cannot substitute for the certainty of that risk transfer.” Investment managers are currently evaluating what level of risk, given the new tools available to them, they are willing to assume in trading.

Algorithmic trading will continue to grow – but it will be used differently by different market participants. “Different clients will always have different requirements and some of those requirements don't necessitate algorithmic trading,” says Cartledge. “For example, in the hedge fund universe, model-focused funds are extremely sensitive to execution cost and therefore algorithmic trading makes sense. But macro funds are usually far more focused on trading quickly and passing risk to the bank they are dealing with. Asset management is a promising area for algorithmic execution, given the scale of the trades it conducts and its need to demonstrate best execution. Similarly algorithmic trading is an indispensable part of banks' armoury when operating in FX.”

# transaction cost analysis (TCA)

## Does TCA work in FX?

**Transaction cost analysis sounds like an ideal solution for many FX market participants. But is it robust enough to become popular?**

Transaction cost analysis (TCA) is a relatively new concept in the foreign exchange markets. It should provide a way of monitoring the relative performance of different FX venues and execution strategies. But, as everyone knows, FX is traded differently to equities or fixed income, where TCA is increasing in importance. Can TCA be successfully implemented in FX and how? And is there demand for it?

TCA analyzes the total cost of a transaction which includes components such as market impact, timing impact and liquidity impact. It can also include commission/brokerage and ticket costs. References can be found on ITG, Abel Noser and QSG web sites. The lowest transaction cost does not necessarily imply the best execution. Rather TCA has to consider differences based on three aspects that affect the effective cost of execution: first, and most obvious, is the spread between the bid and offer price; second is the price impact brought about by the trade; and third is the opportunity cost arising from the movement in price that may occur between the decision to trade and its execution.

A huge quantity of information is therefore required to assess where the best value execution occurs. In theory, data is required for every stage of the trading process, including settlement, from every possible source of execution. In the equity market, there was initially only one primary venue for execution – the stock exchange on which an equity is listed. New venues have appeared in recent years and TCA vendors have worked to ensure that they are included in any benchmarking data.

However, Tim Cartledge, head of FX options and electronic FX trading at Barclays Capital in London, catalogues a number of characteristics that make TCA harder to achieve in FX markets. “For example, one element of TCA is about the impact caused by the trade. But in the FX market you are considerably less likely to move the market because of the huge liquidity available.”

Jeremy Smart, global head of FX e-commerce sales at Morgan Stanley in London, points out that the FX market behaves in ways that are much less predictable than the equity markets. “If a volume-weighted average price trade is executed in the equity market, an algorithm can take account of when the most liquid times in the market will be – because it follows a steady pattern. In FX, the standard deviation of volumes is considerable and may be impossible to predict.”

As an over-the-counter (OTC) market with trading done over the telephone and electronically, FX does not have a single point of reference that an equity market enjoys and transparency is harder to achieve. “It’s hard to observe where various people transact and it’s impossible to observe where your own bank is executing

your trade relative to where other similar trades are being executed,” says Cartledge.

Jim Kwiatkowski, head of sales, at FXall Americas, agrees that it is much easier to establish best execution at the moment of trading in the equity market. “There are several third-party vendors who are connected up to every equity trading venue,” he notes. “The problem in FX is that so much business is done OTC that people have to be more creative about sourcing the data.” In other words, TCA in FX is tough but not impossible. Kwiatkowski says that TCA vendors are beginning to connect to multiple FX venues and data sources and as they do their service will become “more robust”.



Jim Kwiatkowski, head of sales, Americas, FXall

### **Who does FX TCA make sense for?**

Kwiatkowski is optimistic about the outlook for TCA in FX and says that most interest is coming from the asset management community, which already uses TCA extensively in other asset classes: Asset Managers are very interested to prove they have received best execution.” he notes.

Bill Stephenson, head trader at Templeton observes that “TCA has helped us in our best execution process for many years. We are looking forward to a new level of insight with FX-TCA.” Indeed, the requirement to prove best execution, as specified by the European Commission’s Markets in Financial Instruments Directive (MiFID), could yet prove the spur for significant growth of FX TCA.

While MiFID does not apply to FX spot and commercial forwards markets, it does require investors trading in other asset classes to demonstrate best execution in the FX component of their trading. As a result of this, any increase in uptake of TCA in FX is likely to be driven by institutions where trading costs are passed on to the end user. “They are being pushed by regulators to show cost analysis and TCA is the obvious answer,” says Smart.

Interest in TCA has also become a theme among hedge funds, which also already use TCA in the equity world. “The key issue for hedge funds is performance and that means that it makes sense to squeeze costs wherever possible.” And TCA could be

# transaction cost analysis (TCA)

helpful for banks in their relationships with clients. Banks know that often – especially when they are dealing in large amounts – they can provide a better price in a full amount than a client could get through an aggregator or on a single platform. They can prove that with TCA, so they are not opposed to it.

## Getting down to the detail

Many market participants have been satisfied with their execution costs and employ methods other than TCA to evaluate the service they receive. “Most people operate on a one-trade, one-spread basis: all the execution information they need is in that spread,” notes Cartledge. “FX is done at the tightest spread at the front of the stack – it’s straightforward.”

But TCA is still in its infancy in FX and appetite among market participants is likely to increase substantially as it begins to prove its worth. “It takes a long time to collect the sort of data which is required for a substantive analysis,” notes Smart. “It could prove the case, that over time TCA does make the market more transparent and it could even tighten pricing. What will prove crucial is data. In the absence of a central exchange, you can only use what you’re offered by your bank or get from an FX venue – but that can never show you the full depth of liquidity available.”

Smart says that it is important not to exaggerate the pace of development of TCA in FX. “TCA has the potential to be important to FX once it has overcome a number of significant hurdles but that is some way off,” he says. “People always overplay the speed of development in e-commerce. That doesn’t mean that we won’t be astounded by what has been achieved in five years’ time – just that we need to deal with the reality of the technology today.” But as Kwiatkowski notes: “There are already those that are making the connections and laying the foundations – reality often comes sooner than we think.”



Tim Cartledge, head of FX options and electronic FX trading, Barclays Capital, London

# A one-stop solution for best practice across your FX operations

FXall provides institutional clients across the foreign exchange markets with the tools they need to achieve best practice. Our services encompass the full deal lifecycle, from ensuring best execution to streamlining settlements and confirmations. With FXall, organizations can expand their alternatives for managing their FX execution and select the appropriate mechanisms to fulfill the responsibility they have to their stakeholders, while meeting industry-recognized best practices for control and compliance.

The table below illustrates how FXall can help you achieve best practice across your foreign exchange operations.

Best practice requirement	FXall solution
Trading	
Ability to source the best available price is a key factor in achieving best execution	FXall delivers deep liquidity from more than 60 providers, making it easy to source a competitive price regardless of trade size or market conditions
Internal netting of trade requirements can help firms save money and avoid paying the bid/offer spread	QuickOMS, FXall's advanced portfolio trading tool, can be adapted to create tailor-made internal dealing solutions that match the workflow requirements of any customer – for example, an equity dealer entering an order with an internal FX trading desk, or a regional treasury requesting a price from head office
Post-trade	
Timely, automated confirmations speed up trade processing and reduce operational risk	Settlement Center, FXall's post-trade processing platform, automates the exchange of confirmation messages between counterparties, reducing processing times and operational risk

# FXall - a one-stop solution

<p>Timely settlement instructions, ideally using an embedded SSI database, facilitate prompt settlement and enhance STP</p>	<p>Settlement Center includes a comprehensive and accurate SSI database. The appropriate instructions from the database are automatically attached to each outgoing payment message</p>
<p>Real-time STP between the client's in-house system and trading platform enables trade details to be uploaded and downloaded automatically, reducing risk, eliminating manual re-keying and boosting efficiency</p>	<p>QuickConnect, FXall's STP solution, automates workflow between FXall and in-house systems, including seamless upload and download of trade details. FXall can integrate to any treasury or portfolio management system, whether proprietary or third-party</p>
<p>Trade auditing and analysis</p>	
<p>Full electronic trade audit trails make it easier to track best execution</p>	<p>FXall generates complete electronic audit trails for every trade, facilitating compliance with regulations such as Sarbanes Oxley and making it easier to prove best execution</p>
<p>Comprehensive post-trade analysis is an essential part of tracking execution quality and documenting best execution for clients</p>	<p>Market Insight, FXall's research and market data portal, includes comprehensive reporting functionality to prove best execution. Customers can benchmark the price achieved against other rates available in the market for their trade size at the time the deal was executed and track counterparty performance over time to monitor which providers are delivering best execution</p>

Internal controls	
<p>Separation of duties – Companies are increasingly tightening internal controls by implementing maker-checker rules, so that the person who builds the trade requires another to approve and/or execute it</p>	<p>FXall offers full support for role-based permissioning at every stage of the trade lifecycle. QuickOMS enables users to achieve the most stringent levels of internal control by splitting the trading function into three separate roles – order builder, order approver, and order executor.</p> <p>We also use unique user IDs to enforce segregation of duties between front and back office. Each ID may be enabled only for FXall Trading or Settlement Center, so one person cannot perform both functions</p>
<p>Control testing – Current legislation including Sarbanes Oxley, MiFID etc means that market participants now need to document and test controls regularly</p> <p>Choosing a vendor with an SAS-70 report not only gives you confidence that you are in safe hands, it also helps more favorable treatment from auditors. The SEC has stated that an SAS-70 report is an acceptable method of documenting your external controls – so you don't need to undertake a separate audit of the provider organization</p>	<p>FXall has received an American Institute of Certified Public Accountant's SAS-70 report, an in-depth audit of our controls. We are also regulated by the FSA</p> <p>As well as documenting our internal controls, we also make it easier for you to document yours. FXall transforms a series of manual steps into a single, seamless process, making it easier to test and monitor key control points</p>

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FXall is a leading online FX trading platform, which offers trading, order management, post-trade and reporting services to their clients; corporations, asset managers, hedge funds, banks and broker-dealers for FX and money markets. It is integrated to more than 60 leading FX banks, delivering deep liquidity for FX spot, swaps, forwards and NDFs in more than 300 currency pairs.

In February 2007 FXall launched Accelor, the next-generation foreign exchange ECN for FX professional traders.

FXall has won many major industry awards including 'Number 1 Multibank Portal' in the Euromoney 2007 FX Poll.

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