# Foreign Exchange Joint Standing Committee e-commerce subgroup report

*This article describes recent developments in electronic trading in the foreign exchange market, based on a report produced by the e-commerce subgroup of the Foreign Exchange Joint Standing Committee. After a brief introduction to e-commerce in the context of the foreign exchange market, it discusses developments in electronic trading, including both single-bank and multi-bank internet-based systems, and explains market initiatives such as 'prime brokerage' and 'white labelling' that have been facilitated by electronic platforms.*

## Introduction

The Foreign Exchange Joint Standing Committee (FXJSC),(1) for which the Bank provides a Chair and Secretariat, is a liaison committee consisting of senior staff representing many of the commercial banks active in the London foreign exchange market. The membership of the Committee also includes representatives from brokers, corporate users of the foreign exchange market and the Financial Services Authority. Given the importance of developments in e-commerce for the structure of the foreign exchange market, the FXJSC decided in 2000 to set up a subgroup of experts from this field to monitor them. This article describes recent developments in foreign exchange e-commerce, based on the third in a series of annual reports produced by this subgroup.(2)

## E-commerce in the context of the foreign exchange market

The foreign exchange market is primarily an over-the-counter (OTC) market, ie one where contracts are agreed bilaterally between participants, rather than on-exchange.(3) The market consists of different agents, trading for various reasons. 'End-users'—such as corporates, investors and governments—may enter into foreign exchange trades with market intermediaries (usually banks) in order, for example, to facilitate the purchase of foreign currency bonds, or to exchange foreign currency proceeds from exports into their domestic currency. There is a large professional interbank market that enables intermediaries to manage the risks arising from this activity—at the simplest level, that exchange rate moves change the value, in domestic currency terms, of an asset denominated in foreign currency—by trading to transfer risk between themselves.

Participants in the foreign exchange (FX) market have been executing transactions across electronic messaging or broking systems such as Reuters and EBS, which match buyers and sellers, for many years. But these are proprietary, closed systems, and largely restricted to the interbank market. In contrast, the market between end-users and banks was for many years based on telephone contact. But in recent years internet-based trading platforms have appeared, and are being used by a much broader range of market participants. There are two main types.

- First, 'proprietary' or 'single-bank' systems. Here a bank allows its customers to trade with it, on its own internet-based platform, essentially as an alternative to the telephone. There are advantages for both parties: time is saved in processing trades, especially small ones; the system can be linked electronically to each party's in-house systems for recording, settling, accounting and risk-managing trades and therefore reduces the need for re-keying and aids straight through processing;(4) and it simplifies complex

(1) The FXJSC annual report provides more information on the work of the Committee, and is available from www.bankofengland.co.uk/markets/forex/fxjsc/annualreview2002.pdf.
(2) The 2002 report is available from www.bankofengland.co.uk/markets/forex/fxjsc/ecommerce021220.pdf.
(3) For more information on the structure of the global foreign exchange market, see the Spring 2001 *Bank of England Quarterly Bulletin* article 'The foreign exchange and over-the-counter derivatives markets in the United Kingdom'.
(4) There is no consistent definition of straight through processing (STP), although it is generally taken to encompass the automation of the entire settlement and processing of a trade, without the need for human intervention, except where there is an inconsistency in trade details between the two counterparties. STP reduces the number of failed trades, and improves overall efficiency.

cross-product transactions (eg some systems can automatically calculate the FX implications of a string of cross-currency securities trades). All these factors should reduce costs.

- Second, 'multi-bank' systems or 'portals'. Several of these have been set up, some by consortia of banks and others independently. The key difference between a multi-bank and a single-bank system is that in the case of the former, a number of different banks offer prices—that is quote exchange rates or 'provide liquidity'—on these platforms in competition with one another. In addition to the advantages of single-bank platforms, there is an argument that the multi-bank portals may provide 'finer' prices (that is, narrower spreads between the prices that the bank quotes for buying and selling a currency pair—known as 'bid' and 'offer' prices respectively). They also allow customers to demonstrate, for example to their auditors, that they achieved the best price available.

The newest types of platform involve end-users disintermediating by matching transactions between themselves.

## Developments in electronic platforms

During 2002, as described in the subgroup's previous report, the market's attention was clearly on multi-bank portals, in part reflecting the closure of Atriax, one of the major multi-bank portals. But in 2003, proprietary bank systems have been back in focus again. The most interesting e-commerce developments have been in 'prime brokerage', 'white labelling' and 'liquidity-exchange'(1) models, to which proprietary systems are central. Further, banks that have aggressively marketed their proprietary platforms have reportedly seen much higher volumes across these platforms than through their participation in the multi-bank portals. A clear trend across all banks is that e-commerce volumes have continued to grow.

### Multi-bank portals

Market participants suggest that the market leaders are widely perceived to be FXall, Currenex and FXConnect, as was the case in 2002. The ownership structure of these portals varies. A consortium of banks owns FXall; Currenex is independently owned; and FXConnect is owned by a single bank, State Street (although it is a multi-bank system in that other banks are able to offer prices). FXall and Currenex have tended to attract corporate customers whereas FXConnect has tended to attract fund managers. All systems are reportedly looking to expand their customer base into other sectors, further increasing competition between the portals.

According to one survey(2) the daily volumes through these portals are estimated to have risen rapidly, from $7 billion per day in May 2002 to $14 billion per day by October 2002. Anecdotal evidence suggests that volumes have continued to grow into 2003.

- FXall reported that its average daily trading volume in April 2003 was $7.5 billion.(3)
- FXConnect reported that its average daily trading volume in April 2003 was $10 billion.(4)
- Currenex has not released turnover data.

However, these volumes are small in the context of the overall foreign exchange market. The survey quoted above estimated that trading over multi-bank portals accounted for around 7% of wholesale foreign exchange market turnover.(5) There are geographical differences in foreign exchange e-trading take-up. In Europe and North America, 35% of larger organisations (defined as those that trade more than $2.5 billion in foreign exchange in a year) are estimated to trade electronically, compared with 25% of such organisations in Japan.(6)

A new development is end-user to end-user matching systems, such as Hotspot FXi. These enable participants to post bid and offer prices anonymously, and to accept market prices posted by others. Banks can provide liquidity by posting bid and offer prices but are not

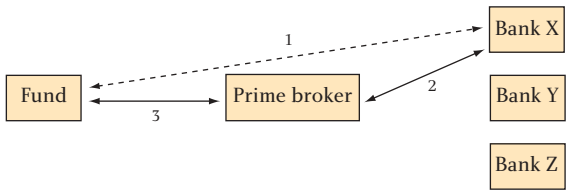
(1) These terms are explained below.
(2) Client Knowledge, quoted in FXWeek 'Online FX: a revolution in the making', 25 November 2002.
(3) FXWeek—'Multi-bank platforms reap e-forex growth rewards', 21 April 2003, and interview with Mark Warms, Chief Marketing Officer for FXall.
(4) FXWeek—'Multi-bank platforms reap e-forex growth rewards', 21 April 2003, and interview with Simon Wilson-Taylor, head of State Street's Global Link portal, which hosts FXConnect.
(5) Client Knowledge, quoted in FXWeek 'Multi-bank portals fight for viability', 25 November 2002.
(6) Greenwich Associates survey of e-commerce quoted in FXWeek, 21 April 2003.

permitted to accept prices placed by end-users. This model is attractive primarily because it offers end-users, such as institutional funds, hedge funds(1) and corporates, the opportunity to trade with each other rather than via an intermediary such as a bank, which should therefore be cheaper for them.

The multi-bank portals are considered to have strong brand names, and market participants believe that they may in due course expand into other products, such as money market instruments. Some market participants expect there to be further consolidation among the multi-bank portal businesses at some point. Such consolidation, should it occur, is considered unlikely to affect the broad trends described above.

## Prime brokerage

This is an arrangement under which the foreign exchange deals of an end-user (often an institutional fund or a hedge or leveraged fund) are transacted with a single bank counterparty (the prime broker), even though they may initially be agreed between the end-user and a third-party bank. The prime broker is usually a large, highly-rated bank. It allows the end-user, in this example a fund, to initiate trades, subject to credit limits, with a group of predetermined third-party banks in the prime broker's name. This process is set out diagrammatically below. The end-user first agrees a transaction with a third-party bank, in the name of the prime broker (1); this transaction is then recorded by the prime broker (2); and finally a reciprocal transaction is entered into between the end-user and the prime broker (3).




This process has administrative advantages for the end-user, in that legally its transactions are conducted with a single counterparty, the prime broker. The end-user's net position with the prime broker may be rolled forward by means of daily foreign exchange swaps until the end-user reverses its original trade; or it may be settled at regular intervals, for example at month-end. It will generally be subject to collateralisation. But prime brokerage also allows the end-user, who may have a low credit rating, to initiate trades with a broader range of counterparties, because it is in effect 'borrowing' the credit rating of the prime broker bank. That means, among other things, that it can be confident of dealing at an attractive rate. The prime broker process separates the provision of liquidity (in the example above provided by Bank X) from the provision of credit (in the example above provided by the prime broker).(2)

The attraction for the prime broker bank is that the business provides a stream of fee income in return for the use of its balance sheet and credit assessment facilities, which it may view largely as fixed costs. The third-party bank may also welcome the prime brokerage arrangement because it enables it in effect to accept the end-user's business without having to incur credit risk to it—only to the prime broker.

Until recently prime brokerage was a niche product and a manually intensive process for the prime broker. However, developments in e-commerce—notably the automation of the process by which the initial trade is communicated to and recorded by the prime broker—have led to STP benefits and encouraged the growth of prime brokerage services.

Hedge funds make widespread use of prime brokerage, but there are a few examples of other institutions such as corporates and small banks doing so too. At present, prime brokerage is more common in the United States than in Europe, but some market participants expect the practice to grow in Europe if the number of leveraged funds based there continues to increase.

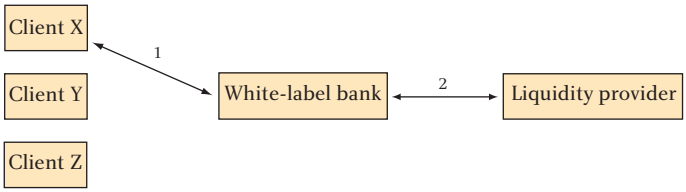
## White labelling and outsourcing

White labelling is the name given to an arrangement whereby a bank uses an e-commerce platform to allow its customers to trade at prices quoted by a third-party

(1) To generalise, an institutional fund, such as a pension or insurance fund, will need to transact in foreign exchange to the extent that it has assets or liabilities in foreign currency, in order to undertake cross-currency transactions and manage the resulting foreign exchange risk. A hedge fund, which is an asset management firm that is typically smaller than an institutional fund but may expand its balance sheet ('leverage') by means of borrowing, may transact in foreign exchange for the same reasons, but may also seek to generate returns directly from foreign exchange position-taking.

(2) The foreign exchange transactions concerned are generally purchases or sales of currency on a forward basis. These deals involve credit risk since, if the counterparty defaults before maturity, the deal might have to be reinstated with a different counterparty on less attractive terms, exchange rates having moved in the interim (this is called 'replacement cost risk'). As with any foreign exchange transaction there may also be 'settlement risk'—the risk that, at the maturity of the deal, a party delivers the currency it is selling without receiving delivery of the currency it is buying.

bank. Again, this is explained in a diagram below. First, the end-user deals with its preferred bank counterparty (1), hereafter referred to as the 'white-label' bank, via an e-commerce system. Second, an equivalent deal is automatically generated between the white-label bank and the third-party bank known as 'the liquidity provider' (2) to pass the foreign exchange risk to the latter. The effect of this is that the white-label bank retains the credit risk to the end-user, while the liquidity provider takes on the foreign exchange risk (in this context termed 'liquidity provision').




White labelling differs from prime brokerage in the nature of the client and the service provided. Prime brokerage is targeted at end-users and allows them to conduct their foreign exchange business with a single counterparty, while retaining the capacity to initiate transactions with a broad range of banks. White labelling, on the other hand, is targeted at an intermediary—a bank—and allows that bank to offer a foreign exchange trading service to its clients, while transferring the foreign exchange risk associated with that activity to a third party to manage. It is typically attractive to smaller banks who wish to be able to offer their customers a range of services, including foreign exchange trading, but may not wish to manage all the attendant risks in-house, or not at all times.

Banks can outsource some or all of their liquidity provision in this way. Typically, many will continue to manage foreign exchange risk themselves during their domestic hours of operation, and in their local currency, where they may have specialist skills. The ability to outsource liquidity provision can be particularly attractive outside normal trading hours, and in currency pairs where the bank has no particular expertise. White labelling therefore enables small and medium banks to offer a 24-hour e-commerce service in numerous currencies without the need to have staff available for the whole of this time.

White labelling may involve solely the outsourcing of foreign exchange risk management, or it could also include the outsourcing of technology and trading platforms. The latter involves the liquidity provider or an IT vendor providing an e-commerce platform which is 'branded' with the identity of the white-label bank.

For the liquidity provider, the main attraction of white labelling is the ability to attract greater trade volumes and thereby achieve greater profitability both directly and by benefiting from economies of scale.

## Autopricing

One key issue for any bank providing electronic trading systems for its clients is the ability to provide immediate and simultaneous foreign exchange rates (or 'prices') for, potentially, many different distribution outlets. Automation of foreign exchange pricing—'autopricing'—allows for more timely servicing of customers, and also reduces costs since the foreign exchange rates quoted are automatically generated by an IT system without human intervention. This can make the servicing of smaller deals economic and therefore increase trade volumes, without increasing the number of staff required.

An 'autoprice engine' is used to generate these prices, using a variety of inputs. It needs to know what the current market price is, and whether the bank wants to take a view on that exchange rate. The market price information is typically derived from a number of external sources, such as the rates quoted by electronic brokers and other traders. One result of this is that many institutions could potentially use the same sources of external price information. The 'engine' must also take account of 'deal flow', ie the demand to buy or sell a particular currency pair that is being experienced. An algorithm processes all these inputs to generate a quoted price, without dealer intervention.

A key issue with autopricing is 'latency'—that the published exchange rate may become out of date, exposing the bank to foreign exchange risk. Therefore the speed of reaction of the autoprice engine to market events is of critical importance. The algorithm also needs to be able to handle illiquid or volatile markets. There are examples where institutions have had to suspend autopricing of currencies because of volatility in the foreign exchange market.

## Consolidation

There has been some consolidation among foreign exchange market participants over the past decade as a result of bank mergers, centralisation of trading operations within firms, and the launch of the euro, which eliminated trading in 'legacy currencies'. Some

market participants believe it possible that the growth of e-commerce within the foreign exchange market could accelerate this trend because of the relatively high fixed costs of some of the technology described above, and increased competitive pressures due to the pricing transparency, and potentially the opportunities for disintermediation offered by the new platforms.

## Conclusion

E-commerce is having a considerable impact on the operation of the foreign exchange market. Greater automation through e-commerce is in some cases reducing staff numbers in banks. The roles of staff within banks are also changing. As trade execution, particularly of smaller trades, is increasingly shifting to e-commerce systems, sales and trading staff are spending more time advising clients rather than processing transactions. Banks are communicating and cooperating to a greater extent on issues relating to infrastructure, technology and e-commerce standards. End-users are also changing their behaviour. They are becoming more attracted towards e-commerce in foreign exchange, primarily because it can enable the delivery of STP.