IFSL RESEARCH

FOREIGN EXCHANGE 2007

In partnership with:

CITY OF LONDON

UK TRADE & INVESTMENT

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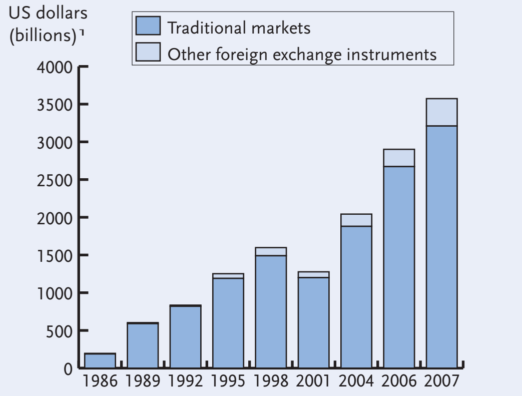
This IFSL report gives an overview of the foreign exchange market, the largest and most liquid financial market in the world. The rapid growth in the volume of foreign exchange turnover over the past two decades reflects the continuing growth of international trade and expansion in global finance and investment. The UK, and London in particular, is by far the largest global market for foreign exchange trading, well ahead of the US and Japan.

OVERVIEW OF THE MARKET

Size of market Average daily turnover in traditional foreign exchange market transactions totalled a record $3.2 trillion in April 2007 (Chart 1) according to a triennial survey published by the Bank for International Settlements (BIS). Overall turnover, including non-traditional foreign exchange derivatives and products traded on exchanges, averaged nearly $3.6 trillion a day.

Chart 1 Average daily turnover of global foreign exchange



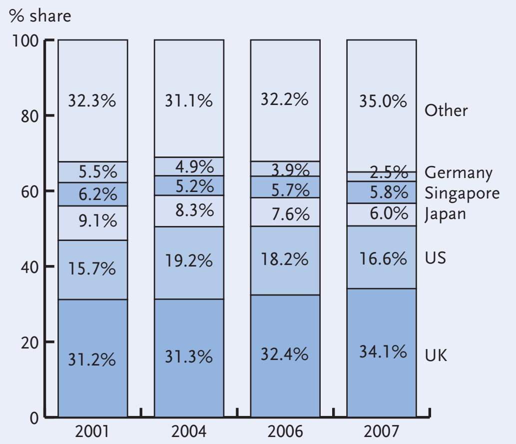
[1] April; [2] spot transactions, outright forwards and fx swaps
[3] currency swaps and options & exchange traded contracts
Source: Bank for International Settlements; IFSL estimates

Foreign exchange trading increased by 70% between 2004 and 2007. The increase was broad-based across all instruments and was due to a number of factors: growing importance of foreign exchange as an asset class; an increase in fund management assets, particularly of hedge funds and pension funds and growth of financial derivatives. The diverse selection of execution venues and development of electronic platforms has also made it easier for retail traders to access the market.

Traditional foreign exchange instruments which include spot transactions, outright forwards and foreign exchange swaps accounted for nearly 90% of global turnover in April 2007. Over-the-counter (OTC) currency swaps and options generated 8.1% of turnover and foreign exchange futures and options traded on derivatives exchanges the remainder.

Trading locations Because foreign exchange is an OTC market where brokers/dealers negotiate directly with one another, there is no central exchange or clearing house. The UK was the main geographic centre for foreign exchange trading having extended its share of the global total from 31% to 34% between 2004 and 2007. Most other large centres showed a decline in their share during this period, US from 19% to 17%, Japan from 8% to 6% and Germany, from 5% to 3%. Singapore increased its share, from 5% to 6%. Most of the remainder was accounted for by Switzerland, Australia, Canada, France and Hong Kong.

Chart 2 Main countries for foreign exchange trading



Source: Bank for International Settlements; IFSL estimates

London as a centre for foreign exchange trading Average daily turnover on the UK's foreign exchange market totalled $1,359bn in April 2007, with a further $80bn traded in currency derivatives. This was 80% up on the total three years earlier. Twice as many dollars are traded on the foreign exchange market in the UK than in the US, and more than twice as many euros are traded in the UK than in all the euro-area countries combined. The bulk of trading in the UK was conducted in London which is by far the largest global centre for foreign exchange business.

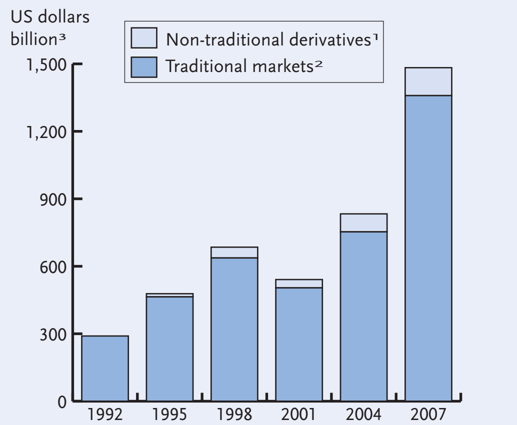
Main advantages of London as a centre for foreign exchange trading

- A central geographical location and position between the US and Asian timezones;
- Easy access to markets combined with a tradition of welcoming foreign firms;
- High quality professional and support services;
- Substantial physical assets, particularly office accommodation;
- Efficient telecommunications infrastructure;
- Concentration of financial institutions. London has more foreign banks than any other centre.
- Perception of a proportionate approach in its regulatory climate;
- Use of the English language.

Foreign owned institutions, accounted for close to 70% of foreign exchange trading in London in April 2007. EU institutions alone generated more than a quarter of the overall total. The 250 foreign banks located in London exceed that of any other city (Chart 4). Although their share has decreased somewhat during the past decade, foreign banks still held the majority (53%) of UK banking sector assets at the of 2006.

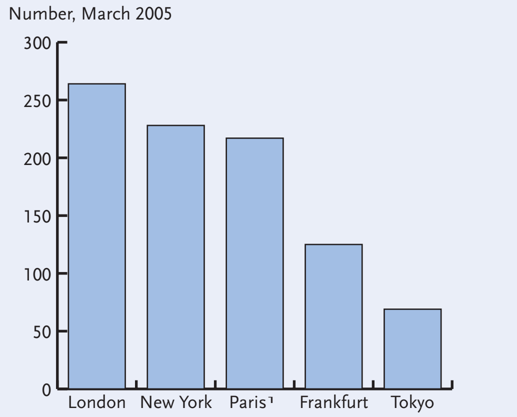
London's leading position as a centre for foreign exchange trading reflects its position as the main financial centre in Europe and the leading global international financial centre. Some of the many factors which contribute to this are listed above. Around a half of European investment banking activity is conducted through London, which is also Europe's main centre for prime-brokerage services. This is particularly important for the growing hedge fund sector. Although prime brokers are usually associated with equities, foreign exchange prime broking is increasing in importance reflecting the rise of foreign exchange as an asset class.

Chart 3 UK foreign exchange market average daily turnover



[1] OTC currency swaps and options; [2] as defined in Chart 1
[3] April
Source: Bank for International Settlements, Bank of England

Chart 4 Branches and subsidiaries of foreign banks



[1] 31/12/04
Source: Bank of England, Bank of Japan, US Federal Reserve, Banque de France, European Banking Federation

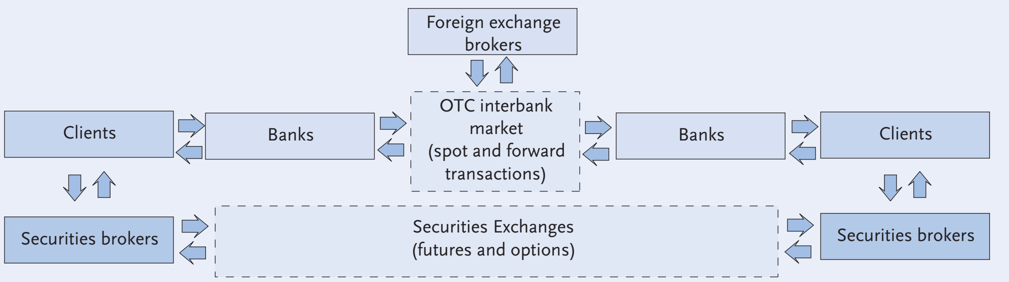
CHARACTERISTICS OF THE FOREIGN EXCHANGE MARKET

A foreign exchange transaction is a transfer of funds, from one country and currency to another. The exchange rate is a price, i.e. the number of units of one currency that buys one unit of another currency. The market exchange rate is determined by the interaction of the official participants in the market (governments) and private buyers and sellers.

The foreign exchange market consists of the Interbank market, customers (banks, corporations, individuals, fund managers, etc.) and derivatives exchanges.

The Interbank market is a wholesale market which does not have a centralized location for trading (Chart 5). Participants in this market, mostly commercial and investment banks, trade directly with each other or through brokers. Business is conducted over the telephone or electronically.

Chart 5 Structure of the foreign-exchange market



Source: Prentice Hall

The foreign exchange market is a

Historical overview of the foreign exchange market

Many centuries ago, the value of goods were expressed in terms of other goods. Eventually forms of metal like bronze, silver and gold came to be used to facilitate the exchange of merchandise. Coins were eventually minted from metal in stable political regimes. During the late middle ages, a variety of paper IOUs started gaining popularity as an exchange medium and these formed the basis for the development of currencies.

Eventually most countries supported their currencies with convertability to gold. This was the basis of the gold standard. The Bretton Woods accord in July 1944 fixed the dollar to 35 dollars per ounce and other currencies to the dollar. This peg came under increasing pressure as national economies moved in different directions during the 1960s. In 1971, president Nixon suspended convertibility to gold and in 1973 the Group of Ten industrial nations allowed their currencies to 'float' against each other. In 1978, the free-floating system was officially mandated.

24-hour market. The trading day begins in Asia, extends into Europe and then into the US. As Chart 6 shows, trading activity is highest when major markets overlap, particularly early in the morning European time and at the opening of the North American markets.

In foreign exchange every position involves buying one currency and selling another so as long as there are movements in the exchange rate the potential for profit exists. The leverage in this market can be high and traders can take both long and short positions as short selling is virtually unrestricted. Leverage in this market means that actual funds required to open a transaction can sometimes amount to only 1% or 2% of the value of the opened position. One of the few limitations in the foreign exchange market is that some emerging market countries exercise exchange control and prevent their currencies from being freely traded. Due to the high liquidity of the foreign exchange market the cost of trading is typically lower than on other financial markets.

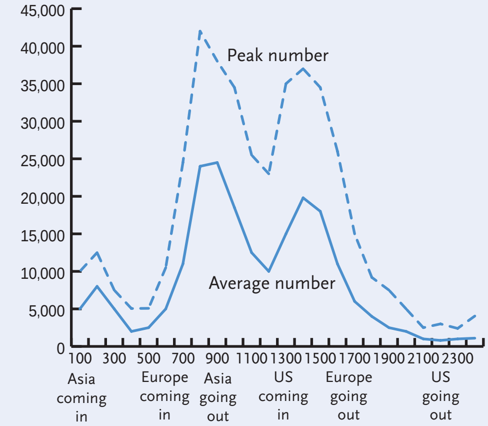
FOREIGN EXCHANGE AS AN ALTERNATIVE INVESTMENT

Foreign exchange has developed into an asset class (a type of investment such as for example stocks or bonds) over the past decade. This is partly because it is uncorrelated to any other asset class. Pressures on fund managers to deliver greater returns from their assets have led them to looking outside traditional asset classes. As the world's largest over-the-counter market, foreign exchange is attractive to investors due to its deep liquidity, volatility, and low-cost per trade. Although there is no widely followed benchmark for foreign exchange, Deutsche Bank's Currency index can be used as an indicator of annual returns of generic foreign exchange strategies (Chart 7).

Traditional instruments generated 90% of foreign exchange turnover in April 2007. This included spot transactions, which accounted for 31% of traditional trading (down from 38% in 1998), outright forwards 11% (up from 9% in 1998) and foreign exchange swaps 53% (up from 49%) (Chart 8). Non-traditional transactions were in OTC currency swaps and options which generated 8.1% of overall turnover and exchange traded contracts 2.0%.

Chart 6 Time-of-day turnover of global foreign exchange

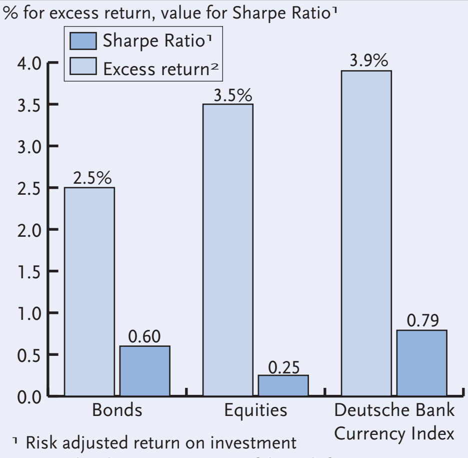
Electronic conversations per hour (1992-1993), London time



Source: Reuters

Chart 7 Annual returns by asset class

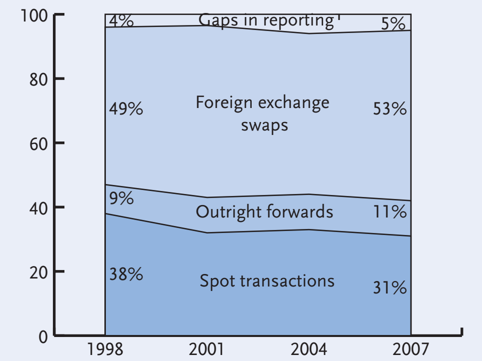
% for excess return, value for Sharpe Ratio[1]



[1] Risk adjusted return on investment
[2] Annualised return in excess of the risk-free return
Source: Deutsche Bank

Chart 8 Global foreign exchange market turnover by transaction type

% share of traditional market instruments



[1] incomplete reporting of deals or incomplete coverage of the range of transactions
Source: Bank for International Settlements

Main trading currencies The dollar is by far the most widely traded currency. This is because of its multiple roles: as an investment currency in many capital markets; a reserve currency for many central banks (Chart 14); a transaction currency in many international commodity markets; and an invoice currency in many contracts.

The US dollar was involved in 86% of foreign exchange transactions in April 2007, followed by the euro 37%, Japanese yen 17%, pound sterling 15%, Swiss franc 7% and Australian dollar 7% (Chart 9). Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200%. Sterling's share fell from 17% in 2004 to 15% in 2007 but was still up on its 9% share a decade earlier. The shares of other leading currencies also fell as trading in emerging market currencies increased.

US dollar/euro was the most widely traded currency pair in April 2007 with 27% of overall turnover. US dollar/yen was the next most traded currency pair, generating 13% of turnover, followed by US dollar/pound sterling with 12% and US dollar/Swiss franc with 5% (Chart 10). Emerging market

Types of foreign exchange trading

Investors can trade directly or indirectly in foreign exchange through foreign exchange OTC instruments and exchange traded contracts:

a) ***OTC instruments*** are traded on the global Interbank market and include:

Outright contracts Straightforward exchanges of one currency for another that are conducted on the Interbank market with various settlement dates:

- Spot transactions settle two business days after the deal date. The spot rate is the current market price.
- Forward transactions are settled on any pre-agreed date three or more business days after the deal date.

Foreign exchange swaps are transactions where one currency is swapped for another and than swapped back at a pre-agreed rate on a pre-arranged date;

Currency swaps are transactions where counterparties exchange and re-exchange both principal and streams of fixed or floating interest payments in two different currencies;

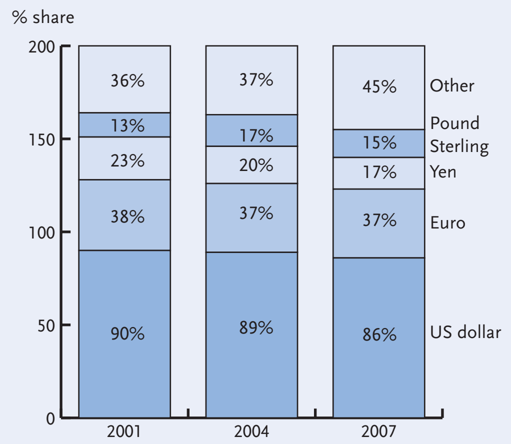
OTC currency options An option is a contract that gives the holder the right, but not the obligation to buy or sell a currency at a specified price within a specific time frame. OTC currency options are customised options where no clearing house stands between the two parties.

b) ***Exchange-traded contracts*** cover trade in a number of foreign exchange products through organised derivatives exchanges. US exchanges account for around 90% of trading in foreign exchange contracts:

Currency futures are contracts for future delivery of a specified unit of foreign currency at a fixed price at a specified date. Futures contracts are in standard amounts, whereas forward contracts are once-only transactions.

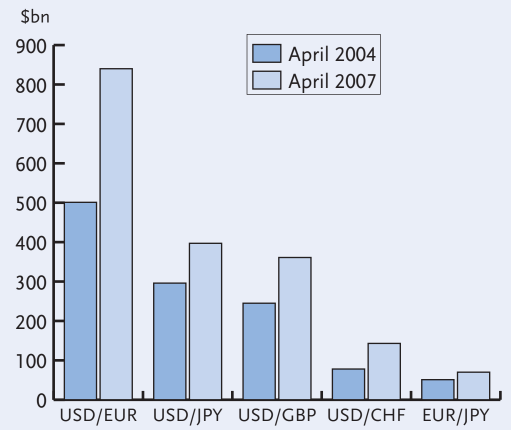
Exchange traded currency options are options traded in standardized contracts and amounts for a limited number of currencies and maturity dates.

Chart 9 Currency distribution of reported foreign exchange market turnover



Source: Bank for International Settlements

Chart 10 Foreign exchange turnover by currency pair



Source: Bank for International Settlements

currencies accounted for around 6% of market turnover. Their share has grown in recent years as they offer potential for higher profits although the risks involved are generally higher.

Exchange rate trends Factors which can influence the level of an exchange rate include political and economic conditions, most importantly interest rate differentials and balance of payments imbalances. Governments sometimes participate in the foreign exchange market to influence the value of their currency. Chart 11 shows the movements in exchange rates since 1999 of the three most widely traded currency pairs. The volatility of the US dollar versus the yen and euro is generally higher than of US dollar/pound sterling. In the period between the launch of the euro in 1999 and mid-2000 the dollar appreciated against most major currencies. Since then it has generally been on a downward trend. The euro weakened against the major currencies in the two years following its launch but subsequently has been appreciating (Charts 11 and 12).

MARKET PARTICIPANTS

Foreign exchange traders include governments, commercial and investment banks, international corporations, fund managers and hedge funds and individual private investors and speculators.

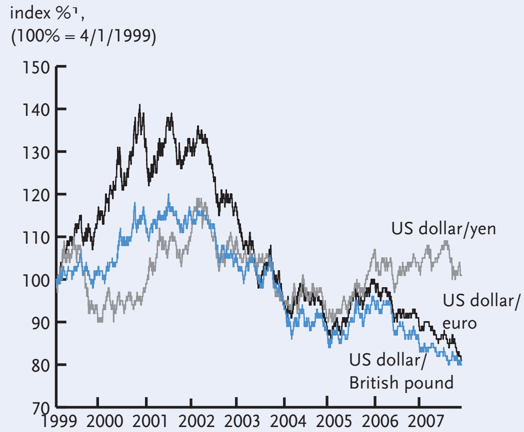
Interbank market The traditional foreign exchange market is made up of commercial and investment banks and other financial institutions which handle spot, outright forwards and foreign exchange swaps on the OTC market. These major dealer banks developed into an Interbank market for foreign exchange through their frequent dealings with each other in an effort to find buyers and sellers of currency. There are around 2,000 dealer institutions worldwide. This has declined since the mid-1990s due to mergers and acquisitions.

Dealers In the Interbank market dealers trade foreign exchange directly with other dealers via the telephone (voice brokers) or through electronic brokerage systems. Dealing companies are mainly commercial and investment banks which trade amongst themselves based on strong credit relationships as part of their system of balancing accounts. Trades are usually to fill customer orders. Banks also trade on their own account although these are usually short term positions.

The largest traders deal in all major currencies and cross-trades as well as some developing countries' currencies. They also handle forwards, options and swaps and conduct market research for their customers. Some dealers act as market makers for a selected number of currencies. Market makers regularly quote both bid and offer prices for a currency and are willing to commit their own capital to complete transactions at the prices they quote.

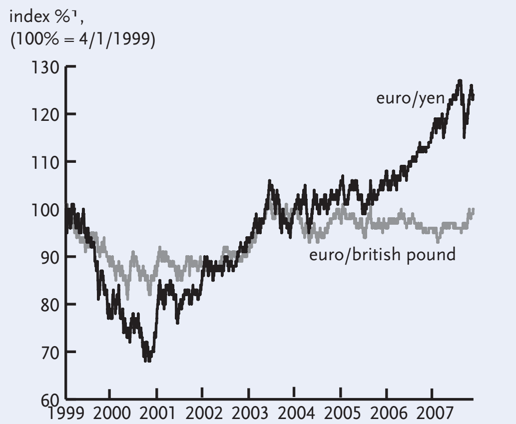
Inter-dealer trading generated 43% of foreign exchange activity in April 2007 (Chart 13), down from 63% in 1998. The large volume of trading is because a customer transaction often leads to further multiple transactions as banks

Chart 11 Foreign exchange rates of major currency pairs



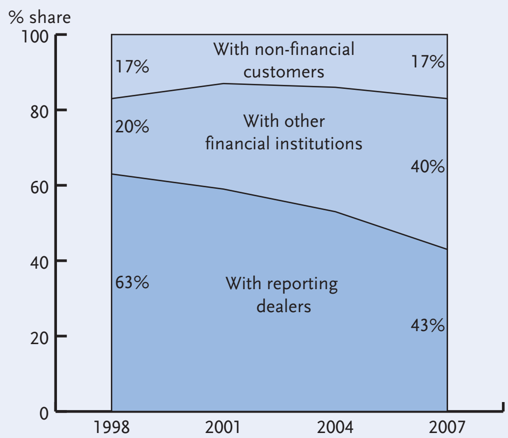
¹Higher index equals stronger US dollar
Source: Oanda

Chart 12 Foreign exchange rates of major non-US dollar currency pairs



¹Higher index equals stronger euro
Source: Oanda

Chart 13 Global foreign exchange market turnover by counterparty



Source: Bank for International Settlements

readjust their own positions to hedge, manage or offset the risks involved. Inter-dealer trading as a proportion of total business has fallen over the past decade due to advances in technology which have reduced the need for intermediaries.

The largest volume of foreign exchange trading involves large banks. Table 1 shows the estimated market share of leading OTC dealers. This market is relatively concentrated with Deutsche Bank, UBS AG and City accounting for more than 40% of trading in May 2007. This was up on the 22% share of the top three dealers in 2000.

Brokers The role of a broker in the Interbank market is to bring together a buyer and a seller of a currency in return for a commission. Usually broker companies quote currency with a spread, that includes their fee. Whereas a dealer may take one side of a transaction and commit their own capital, a broker does not take a position and relies purely on the commission received for the services provided. The share of business conducted through brokers varies in different countries due to differences in market structure and ranges from 10-15% in Switzerland and South Africa to around 50% in France, Netherlands and Ireland.

Clients of banks on the interbank market generated 57% of foreign exchange turnover in the 2007 BIS survey, of which financial customers 40% and non-financial customers 17%. Clients include corporations, fund managers, individuals and central banks. In the past most foreign exchange transactions were a result of companies' processing of import and export transactions or to fund payrolls for international offices. Over the past thirty years, however, investment in financial assets has increased more rapidly than trade. Institutional investors, hedge funds and other fund managers are major participants in the foreign exchange market. Retail investors participation has also grown rapidly since the mid-1990s. This was facilitated by the advent of internet trading platforms.

Central banks are also clients on the Interbank market. They are large players with access to significant capital reserves as shown in Chart 14. Central banks can buy and sell their domestic currency on the market to influence exchange rates or may seek to accumulate, reallocate or reduce their foreign exchange reserves. Many also handle a large proportion of foreign exchange transactions for the government and other public sector enterprises.

Speculation versus investment Foreign exchange trading is by nature speculative. Speculators are attracted to the opportunities that volatile and changing market conditions create. Some traders take on positions on a leveraged basis which magnify market movements. Almost anyone who buys or sells foreign exchange takes a view on the future direction of exchange rate movements. An arbitrary line can be drawn between those who deal in currency to insure against exchange rate changes to cover exports or imports of goods or services, and those who deal in currency aiming to make a profit on exchange rate fluctuations. Some estimates indicate that as much as 95% of foreign exchange trading is speculative.

Table 1 Largest currency traders

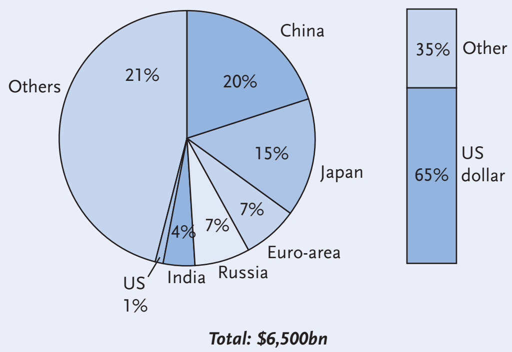
% of overall volume, May 2007

Deutsche Bank	19.3
UBS AG	14.9
Citi	9.0
Royal Bank of Scotland	8.9
Barclays Capital	8.8
Bank of America	5.3
HSBC	4.4
Goldman Sachs	4.1
JPMorgan	3.3
Morgan Stanley	2.9
Other	19.1

Source: Euromoney FX survey

Chart 14 Official foreign exchange reserves

% share by country
and currency, September 2007



Source: Wikipedia, IMF

CHANGING STRUCTURE OF THE MARKET

Consolidation and concentration The number of companies providing foreign exchange dealing services has fallen since the mid-1990s. This consolidation is largely due to increased competition, falling commissions, and rising costs related to the development and operation of new systems and trading platforms. Table 2 shows that the number of banks covering three-quarters of local foreign exchange turnover in major trading countries fell from 74 to 42 between 1995 and 2004. Comparable data for 2007 was not available at the time of publishing of this reports but it is likely that concentration increased further. The UK market for foreign exchange has become increasingly concentrated over the past decade. As shown in Chart 15, the share of the largest 10 institutions rose from 61% to 70% between 2004 and 2007, continuing the trend from the 1998 and 2001 survey.

Electronic broking and internet There are two basic types of electronic systems. Those that connect dealers amongst themselves in the Interbank market and those that connect dealers with customers. Until the early 1990s all brokered business in the OTC markets was handled by telephone. Over the past few years electronic broker systems or automated order matching systems have gained a significant share of the spot Interbank market. This has increased transparency and allowed smaller banks access to the same prices traded by the bigger dealers. The market took a giant leap forward when banks started offering their clients direct access to proprietary platforms with streaming prices.

Electronic trading of foreign exchange accounted for over 60% of turnover in 2007 according to Tabb Group (Chart 16). This will approach the 80 per cent mark by 2010. Celent estimates that three-quarters of the interdealer spot market volume and a half of dealer-to-client volume is traded electronically.

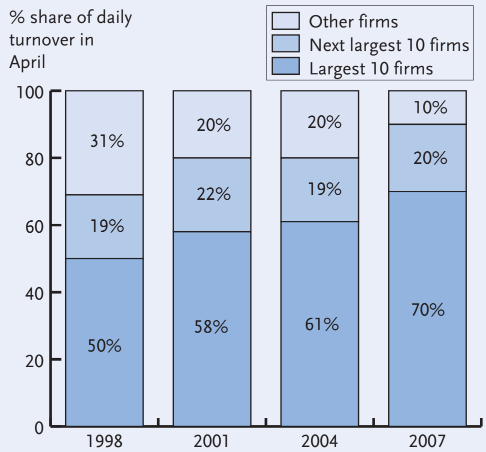
The development of internet trading platforms has made the customer segment of the foreign exchange business more competitive and has allowed for the emergence of non-bank service providers. This has also prompted a greater need for peripheral and add-on services for customers such as, for example, research. Internet trading remains however, in the early stages of development and still accounts for only a small percentage of the overall trading volume.

Table 2 Number of banks covering 75% of local foreign exchange turnover

Number of banks	1995	1998	2001	2004
UK	20	24	17	16
US	20	20	13	11
Japan	24	19	17	11
Germany	10	9	5	4
Total	74	72	52	42

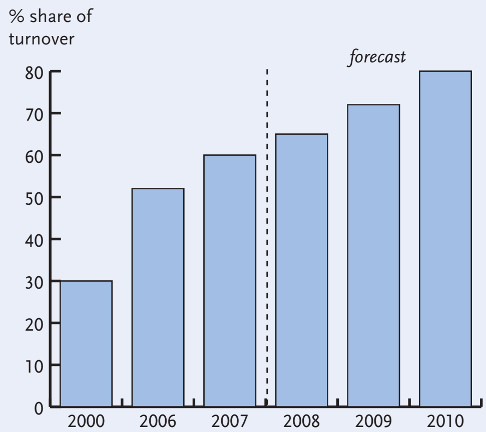
Source: Bank for International Settlements

Chart 15 Concentration of foreign exchange market in the UK



Source: Bank of England

Chart 16 Electronic trading in FX markets



Source: TABB Group

LINKS TO OTHER SOURCES OF INFORMATION:

Bank for International Settlements
Triennial central bank survey of foreign exchange and derivatives market activity
www.bis.org

Bank of England
The foreign exchange and over-the-counter derivatives markets in the UK
www.bankofengland.co.uk

European Central Bank
Review of the foreign exchange market structure
www.ecb.int

Federal Reserve Bank of New York
The foreign exchange market in the US
www.ny.frb.org

Foreign Exchange Joint Standing Committee
www.bankofengland.co.uk/markets/forex/fxjsc/index.htm

New York Foreign Exchange Committee
www.newyorkfed.org/fxc

Singapore Foreign Exchange Market Committee
www.sfemc.org

Tokyo Foreign Exchange Market Committee
www.fxcomtky.com/index_e.html

IFSL Research:

Report author: Marko Maslakovic

Director of Economics: Duncan McKenzie
d.mckenzie@ifsl.org.uk +44 (0)20 7213 9124

Senior Economist: Marko Maslakovic
m.maslakovic@ifsl.org.uk +44 (0)20 7213 9123

International Financial Services London
29-30 Cornhill, London, EC3V 3NF
www.ifsl.org.uk/research

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