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CITY OF LONDON

UK TRADE & INVESTMENT

IFSL RESEARCH

DERIVATIVES 2007

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OVERVIEW

The global derivatives industry has grown at a rapid pace throughout the past twenty years as companies, financial institutions and other organisations have increasingly used the risk management tools provided by derivatives. This new edition of IFSL's Derivative report notes that both OTC and exchange-traded derivatives markets have continued to expand rapidly in recent years (Chart 1). Key trends are summarised below:

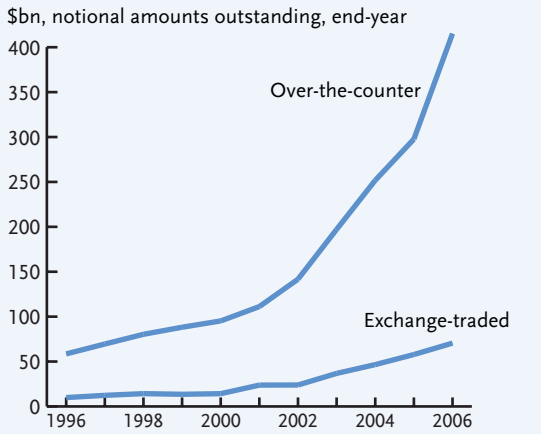
OTC Derivatives Markets The notional outstanding value of OTC derivatives contracts rose by 40% from $298 trillion at end-2005 to $415 trillion at end-2006. Average daily global turnover rose by two thirds from $1,508bn to $2,544bn between April 2004 and April 2007. The UK remains the leading derivatives centres worldwide with its share of turnover stable at 43% in 2007. The US is the only other major location with 24% of trading (Chart 2).

Interest rate instruments remain the key driver of trading, accounting for 88% of UK turnover and 70% of global notional value (Chart 3 & Table 2). Derivatives based on foreign exchange contracts account for a further 10% of notional value, with credit, equity-linked and commodity contracts also important. Energy, metal and freight derivatives have grown rapidly in recent years. The euro's share of interest rate derivatives turnover worldwide has risen to 39% while the US dollar has fallen to 32%: pound sterling and yen also increased their market share over the past three years. Trading is becoming more concentrated amongst the largest banks, while other financial institutions such as hedge funds, mutual funds, insurance companies and smaller banks have become much bigger users of derivatives.

Exchange-traded derivatives Turnover on derivatives exchanges based on the notional value of contracts traded has risen by a quarter in each of the past four years to reach $1,801 trillion in 2006. Based on notional value of trading, the largest exchange in the world in 2006 was the Chicago Mercantile Exchange (CME), followed by Liffe and Eurex. It is estimated that these three exchanges have accounted for over three quarters of the notional value of contracts worldwide in recent years.

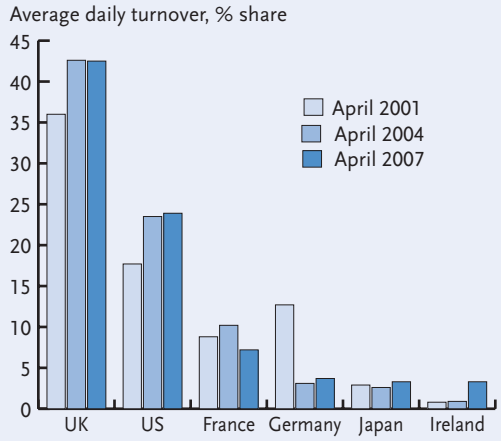
London has a prominent role in global exchange-traded derivatives trading. Liffe is the leading exchange in the trading of short-term euro interest rate contracts: in 2006, these represented 97% of the exchange's total trading based on notional value of contracts. Liffe estimates that 60% of its business originates from London. At least 45% of Eurex trades have originated in the UK since 2003. More than 90% of international business in non-ferrous metal futures is transacted at the London Metals Exchange. ICE Futures Europe is the leading electronic global exchange for energy products. Its share of global crude futures as measured by volume of light sweet crude oil rose to 48% in 2006, while its share of the combined gasoil/heating oil market is about 60%.

Chart 1 International derivatives markets



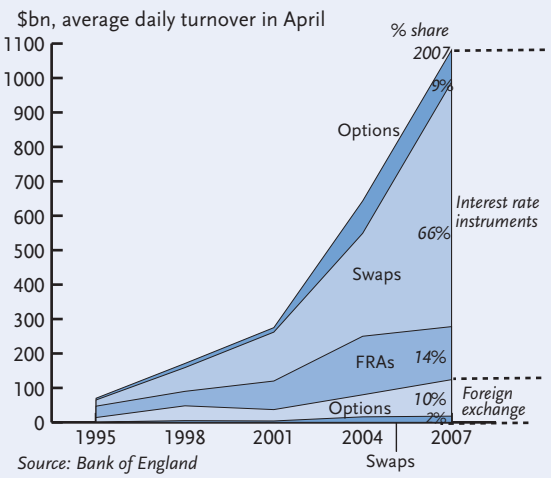
Source: Bank for International Settlements

Chart 2 Location of OTC derivatives markets



Source: Bank for International Settlements

Chart 3 Risk instruments in OTC derivatives markets in the UK



Source: Bank of England

OVER THE COUNTER DERIVATIVES MARKETS

Data on global OTC derivatives markets is generated mainly from the triennial central bank surveys coordinated by the Bank for International Settlements. Five such surveys have been undertaken between April 1995 and April 2007. Data is also drawn from the six-monthly BIS survey of major market participants.

Size The six-monthly BIS surveys show that activity has continued to rise rapidly, with the notional outstanding value of OTC derivatives contracts increasing by 40% from $298 trillion at end-2005 to $415 trillion at end-2006. Notional value of exchange-traded derivatives reached $70 trillion at end-2006, about one sixth of OTC derivatives. Exchange and OTC derivatives having risen at the same rate over the past decade.

Location International OTC derivatives trading is heavily concentrated in the UK and US. (Table 1). The share of global turnover of the UK and US remained stable at 43% and 24%, respectively, in the April 2007 survey. Over the longer period the UK's share has risen from 36% in 1998, while the US share has grown from 19%. Europe's other major economies of France, Germany and Italy have seen a reduction in market share over the past two surveys, while Switzerland and Ireland have seen an increase. Germany's market share dropped from 13% in 2001 to 3% in 2004 before recovering slightly to nearer 4% in 2007. France's share has fallen from 10% to 7%. Ireland showed the largest gain with its share rising from less than 1% in previous surveys to over 3% in 2007. Japan's share also edged up to just over 3%.

Risk instruments Interest rates are the main instrument in the OTC derivatives market. Derivatives based on foreign exchange contracts also form an important sphere of activity as do equity-linked, commodity and credit default contracts. Interest rate derivatives accounted for $292 trillion, 70% of notional market value at end-2006, while foreign exchange derivatives made up $40 trillion, nearly 10%. The share of both had eased back from end-2004 (Table 2), mainly due to the rapid growth in credit derivatives. The latter increased fourfold from notional value of $6 trillion at end-2004 to $29 trillion at end-2006, reaching a 7% share of the OTC market. Commodity derivatives rose fivefold over this period to $7 trillion, reflecting the increased interest in commodities as an alternative investment.

Currency composition The euro has been the most widely traded currency in interest rate derivatives, with a 39% share of global turnover in April 2007, down from 45% in 2004 (Table 3). It was followed by the US dollar, the share of which was also down from 34% to 32%. The high share of the euro is predominantly based on the euro swap market. Other currencies have seen faster growth in trading with the share of Japanese yen doubling from 4% to 8%, while sterling edged up from 9% to 10% and other currencies also attracted more interest. The recovery in the share of yen followed a prolonged period of low and stable yen interest rates, which had depressed trading volumes. Composition of currency trading in the UK in April 2007 was more orientated to European currencies with the euro and sterling having a higher share. This was mainly at the

Table 2 Risk instruments in global OTC markets

Notional amounts outstanding in December

$ trillion	2002	2004	2006
Interest rates	101.7	190.5	292.0
Foreign exchange	18.5	29.3	40.2
Equity-linked	2.3	4.4	7.5
Commodities	0.9	1.4	6.9
Credit default	---	6.4	28.8
Other	18.3	25.9	39.8
Total	141.7	257.9	415.2
% share			
Interest rates	*71.8*	73.9	70.3
Foreign exchange	*13.0*	11.4	9.7
Equity-linked	*1.6*	1.7	1.8
Commodities	*0.7*	0.6	1.7
Credit default	---	2.5	6.9
Other	*12.9*	10.0	9.6
Total	*100.0*	100.0	100.0

Source: Bank for International Settlements

Table 3 Currency breakdown of interest rate OTC derivatives turnover

% share of average daily turnover in April

	World			
	1998	2001	2004	2007
Euro	46	47	45	39
US dollar	27	31	34	32
£ sterling	6	8	9	10
Yen	10	5	4	8
Other	11	9	8	11
	100	100	100	100
	UK			
	1998	**2001**	**2004**	**2007**
Euro	56	48	58	51
US dollar	16	26	21	15
£ sterling	13	17	14	18
Yen	4	3	2	7
Other	11	6	5	9
	100	100	100	100

Source: Bank for International Settlements

Table 1 Location of OTC derivatives turnover

Average daily turnover in April

	$bn				% share			
	1998	2001	2004	2007	*1998*	*2001*	*2004*	*2007*
UK	171	275	643	1081	*36.0*	*36.0*	*42.6*	*42.5*
US	90	135	355	607	*18.9*	*17.7*	*23.5*	*23.9*
France	46	67	154	183	*9.7*	*8.8*	*10.2*	*7.2*
Germany	34	97	46	93	*7.2*	*12.7*	*3.1*	*3.7*
Japan	42	22	39	85	*8.8*	*2.9*	*2.6*	*3.3*
Ireland	3	6	13	85	*0.6*	*0.8*	*0.9*	*3.3*
Switzerland	16	15	18	73	*3.4*	*2.0*	*1.2*	*2.9*
Singapore	11	6	17	69	*2.3*	*0.8*	*1.1*	*2.7*
Italy	5	24	41	32	*1.1*	*3.1*	*2.7*	*1.3*
Others	62	141	223	268	*13.1*	*18.5*	*14.8*	*10.5*
Total	**475**	**764**	**1508**	**2544**	***100.0***	***100.0***	***100.0***	***100.0***

Source: Bank for International Settlements

expense of the dollar in which the notional value of trading fell behind sterling in the latest survey.

Counterparties The major feature of the global counterparty breakdown has been the continuing rise in the share of other financial institutions to 44%, very close to the 46% share of reporting dealers (Chart 4). The global share of non-financial customers also edged up to 10%. Distribution of trading in the UK was much more closely aligned with global shares in 2007 than in previous surveys.

Concentration The OTC derivatives market in the UK became even more concentrated between 2004 and 2007, with the share of the largest 10 institutions rising from 79% to 81% (Chart 5). This continues a trend since the first survey in 1995 when the share of the top ten was 52%. The share of the next largest 10 in 2007 edged down from 15% to 14% as did the share of other participants from 6% to 5%. In the US, the other major location, survey data indicates that in 2007 the share of the largest ten institutions was even higher than in the UK at over 90% of turnover.

Cross border turnover was estimated to account for 74% of turnover of UK compared with a 67% share worldwide. The UK was therefore estimated to account for 47% of cross-border trading, higher than its 43% share of all derivatives turnover.

Other developments in OTC derivatives markets

Credit derivatives Credit derivatives arose from the demand by financial institutions to hedge and diversify credit risk, although they have now also become a major investment tool. The annual survey by the International Swaps and Derivatives Association (ISDA) of 74 major institutions estimated that notional amounts outstanding doubled from $17bn at end-2005 to $34bn at end-2006 (Chart 6). Separate data from the British Bankers' Association indicates that the major products are credit default swaps and full index trades, each with about a third of the market, followed by collateralised debt obligations (CDOs) with about a sixth. The BBA also estimates that London's market share was around 40% at end-2006, down from 45% in 2003 and from 49% in 2001. Banks account for 59% of buyers of credit derivatives, with hedge funds making up 28% and insurers 7%. Banks' purchases are heavily concentrated amongst the largest US and European investment banks.

BIS survey: methodology & measures used

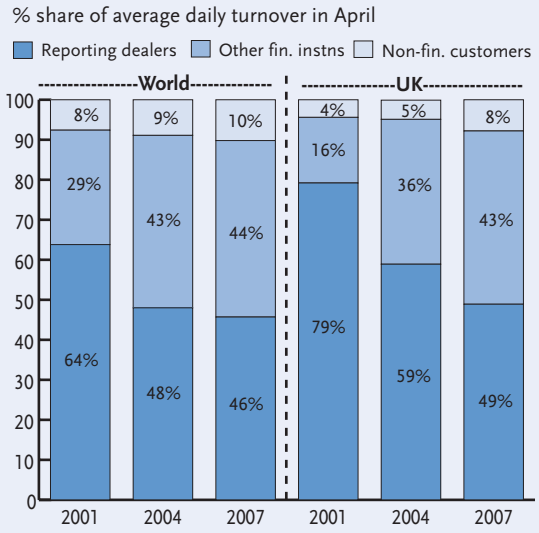
In April 2007, the basis for reporting of location in the BIS triennial survey was 'the location of the sales desk of any trade, even if deals entered into in different locations were booked in a central location.' Measures used:

Turnover data provide a measure of market activity, and can also provide a rough proxy for market liquidity. Turnover was defined as the absolute gross value of all new deals entered into during the month of the surveys, and was measured in terms of nominal or notional amount of the contracts.

Nominal or notional amounts outstanding provide a measure of market size, and can also provide a rough proxy for the potential transfer of price risk in derivatives markets. They are also comparable to measures of market size in related underlying cash markets.

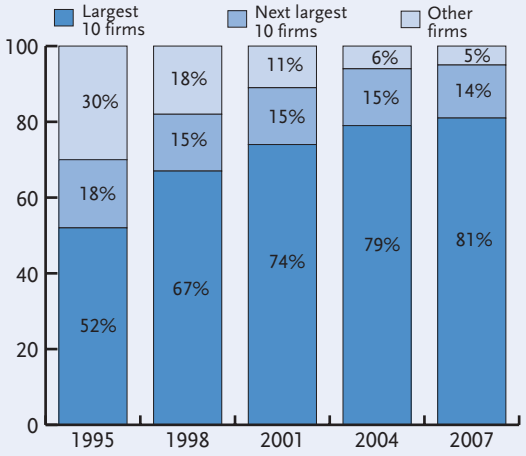
Gross market value supplies information about the scale of gross transfer of price risks in the derivatives markets. They also provide a measure of market size and economic significance that is readily comparable across derivatives markets and products.

Chart 4 Counterparties in OTC derivatives markets in UK



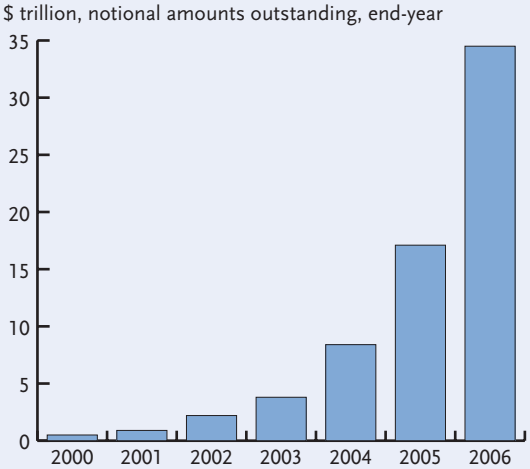
Source: Bank for International Settlements, Bank of England

Chart 5 Concentration of OTC derivatives markets in the UK



Source: Bank of England

Chart 6 Credit derivatives



Source: International Swaps and Derivatives Association (ISDA)

Energy derivatives Energy derivatives covering power and gas forward contracts in the OTC derivatives markets have grown in recent years. This is related partly to the deregulation of electricity generation in the US and Europe and also to the increasing range of participants actively trading energy-related financial instruments over the past few years. In addition to the oil and gas producers, utilities, refiners and other industrial consumers, investment banks and hedge funds are also now active. Based on market surveys, the FSA estimated that notional turnover in London of UK power contracts was unchanged at £30bn in the 12 months to July 2007 from the previous 12 months (Table 4). Gas contracts rose by a third to £108bn, having doubled in the previous year.

The largest two markets by volume - UK gas and European power - both doubled to 12,180 terawatt hours (TWH) and 6,337 TWH (Table 4). The smaller UK power and European gas markets also rose by a half and two thirds, respectively, to 985 TWH and 1,110 TWH. Lower benchmark prices have constrained the growth in the notional value of these markets in London. UK gas and European power markets were up by between a quarter and a third in value despite doubling in volume, while the value of UK power and Euro gas markets were unchanged. The share of business traded through screen-based electronic platforms in these markets recovered in the latest reporting year: up from 70% to 84% in UK gas and from 55% to 71% in European power. Emissions markets mushroomed with the further expansion of the European Emissions Trading Scheme (EU ETS). Some 780m tonnes was traded, with a value of £8.8bn, up from 379m tonnes the previous year.

Freight derivatives A number of the large broking houses are using freight derivatives to hedge or take a position on the future movement of freight rates. According to Baltic Exchange estimates, the notional value of trading in Forward Freight Agreements (FFAs) in the OTC derivatives market rose threefold from $7bn in 2002 to $30bn in 2004 and 2005, before jumping again to $56bn in 2006 (Chart 7). Since 2003, FFAs have been used increasingly by larger charterers, shipowners and for the first time by financial institutions such as investment banks, outside the maritime sector. The dry bulk market, such as grain and coal, accounts for 80% of contracts and wet cargoes, such as oil, for 20%. The predominance of dry bulk is due to the much higher share of freight costs in the dry market.

EXCHANGE-TRADED DERIVATIVES MARKETS

International exchange trading

International trading on the exchanges is most easily compared on the basis of the number of contracts traded, although these comparisons are heavily influenced by the contract sizes selected by individual exchanges. Small contract sizes raise the number of contracts traded, a particular feature of the Korean, Mexican and Brazilian exchanges, where trading is dominated by individual rather than institutional investors. Comparisons based on the nominal value of turnover therefore provide a better indicator of the relative size of the exchanges.

Table 4 Gas & power derivatives

Contracts transacted by brokers in the UK, Twelve months ending July

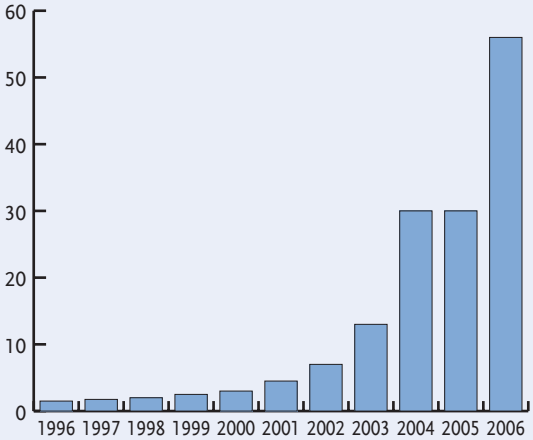
*Size of market, TWH**	2004	2005	2006	2007	*% change 2007*
UK power	1311	688	646	985	*52*
UK gas	4206	5089	6131	12810	*109*
Euro power	2879	2525	3127	6337	*103*
Euro gas	895	689	673	1110	*65*
Coal (m tonnes)	576	415	926	1305	*41*
Emissions (m tonnes)	1	121	379	780	*106*
Notional value of market, £bn					
UK power	35	25	30	30	*0*
UK gas	40	54	108	134	*24*
Euro power	45	77	147	193	*32*
Euro gas	3.5	7	11	11	*0*
Coal	---	45	107	46	*46*
Emissions	---	1.5	5.5	8.8	*61*

**TWH: terawatt hours*

Source: FSA survey of energy derivatives markets

Chart 7 Freight derivatives

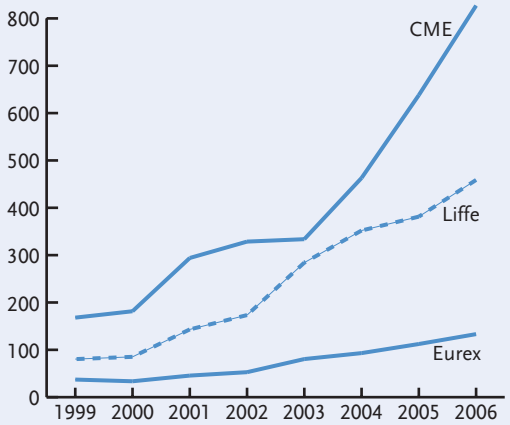
$bn, notional freight value of Forward Freight Agreements traded each year



Source: Baltic Exchange, Forward Freight Agreement Brokers' Association

Chart 8 Largest international exchanges

Value of turnover, $ trillions



Source: CME, Liffe & Eurex

Value of turnover Turnover on derivatives exchanges based on the notional value of contracts traded has risen by about a quarter in each of the past four years so overall more than doubled from $881 trillion in 2003 to $1,801 trillion in 2006. In 2006 the largest exchange in the world was the Chicago Mercantile Exchange (CME), followed by Liffe and Eurex (Chart 8). Turnover on financial exchanges is heavily concentrated amongst the largest derivatives exchanges, with CME, Liffe and Eurex together accounting for over three quarters of the notional value of contracts in recent years. CME made up 46% of turnover in 2006, Liffe 25% and Eurex 7%. Because of the dominance of these exchanges, turnover of exchange-traded derivatives is heavily concentrated on the exchanges of North America and Europe. According to BIS data, 59% of turnover by value in 2006 was based in the North American exchanges, 32% in Europe, 8% in Asia/Pacific and less than 1% in other regions of the world (Chart 9).

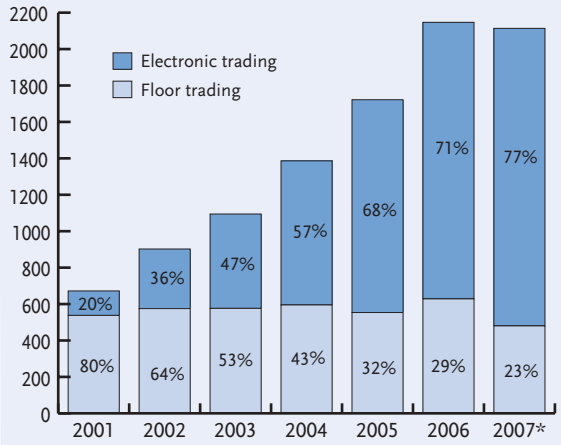
Number of contracts traded The number of contracts transacted through derivatives exchanges worldwide rose by 17% in 2006 to reach 11.89bn. Growth in recent years has been led by trading of equity products. The Korean Stock Exchange, with 2.47 billion contracts, is the largest exchange based on the number of contracts traded (Table 5), followed by Eurex 1.53bn, CME 1.40bn, Chicago Board of Trade (CBOT) 806m and Liffe, with 730m contracts traded. (CME and CBOT merged in July 2007 to form the CME Group.) Eight of the 14 largest derivatives exchanges are based in the US. Looking at other UK-based exchanges, ICE Futures Europe is 21st and the London Metal Exchange 22nd. European exchanges in general are more heavily geared to serving international customers than the US exchanges which are predominantly domestic in orientation. The small size of contracts on the Korean exchange gives Korea a high share of the number of contracts traded globally (Table 6).

Electronic trading has become more widespread. European financial exchanges have been electronic since the late 1990s, and electronic trading on the US derivatives exchanges is rising. On the Chicago Mercantile Exchange and the Chicago Board of Trade, the share of trades undertaken electronically has risen from 20% in 2001 to 77% in the first nine months of 2007 (Chart 10).

Chart 9 International exchange-traded turnover by region

Source: *Bank for International Settlements*

Chart 10 Electronic & floor trading at CME Group



**First nine months of 2007*
Source: *CME Group*

Table 6 Exchange-traded derivatives turnover, based on location of exchange

Annual number of contracts traded, millions

	2005	2006	First half 2007	% share 2005	% share 2006	First half 2007
US	3525	4573	2784	34.9	38.5	38.2
Korea	2593	2475	1459	25.7	20.8	20.0
Germany	1249	1527	971	12.4	12.8	13.3
UK	557	724	464	5.5	6.1	6.4
India	466	571	411	4.6	4.8	5.6
Brazil	204	293	210	2.0	2.5	2.9
Mexico	108	275	98	1.1	2.3	1.3
China	261	222	116	2.6	1.9	1.6
Japan	203	218	121	2.0	1.8	1.7
Netherlands	99	127	77	1.0	1.1	1.1
Other countries	839	884	579	8.3	7.4	7.9
Total	**10103**	**11889**	**7289**	100.0	100.0	100.0

Source: *Futures Industry Association*

Table 5 Largest derivatives exchanges by number of contracts traded

Annual number of contracts traded, millions: ranking based on 2006

	Exchange	Country	2005	2006	First half 2007
1	Korea Futures Exchange	Korea	2593	2475	1459
2	Eurex	Germany	1249	1527	971
3	Chicago Mercantile Exchange Inc	US	1090	1403	820
4	Chicago Board of Trade	US	675	806	496
5	Liffe[1]	UK	759	730	452
6	Chicago Board Options Exchange	US	468	675	426
7	International Securities Exchange	US	449	592	352
8	Bolsa de Mercadorias & Futuros	Brazil	198	284	220
9	BOVESPA	Brazil	269	288	191
10	Mercado Mexicano de Derivados	Mexico	108	275	98
11	Philadelphia Stock Exchange	US	163	273	172
12	New York Mercantile Exchange	US	175	233	150
13	American Stock Exchange	US	202	197	116
14	Pacific Exchange	US	145	197	140
15	National Stock Exch of India	India	132	194	156
21	ICE Futures Europe	UK	42	93	67
22	London Metal Exchange	UK	79	87	46

[1]*Liffe markets in London, Amsterdam, Paris, Brussels & Lisbon*
Source: *Futures Industry Association*

International market access for derivatives

An important concern of the UK derivatives exchanges is to allow investors based in the US access to non-US exchange products. Recent years have seen two major concessions in this area, the first being the decision by the Commodity Futures Trading Commission (CFTC) to permit screen access for trading in most of Liffe's products. The second was the agreement by both the CFTC and the Securities and Exchange Commission, which both have a role in regulation of equity derivatives, to permit trading in single stock futures. Restrictions remain on trading other non-US equity derivatives.

Issues restricting market access in derivatives products are also handled through the World Trade Organisation (WTO), although multilateral negotiations in the current Doha round have been suspended. The WTO does provide a forum in which the numerous types of obstacles affecting international trade in financial services can be addressed.

Exchange traded derivatives in the UK

There are five derivatives exchanges operating in the UK:

Liffe Turnover at Liffe was 730m contracts in 2006 (Table 7). Trading in short term euro interest rate contracts, for which Liffe is the leading exchange, has accounted for 97% of the exchange's annual turnover by value in recent years.

London Metal Exchange Turnover of LME contracts rose by 11% in 2006 to reach 87m contracts, equivalent to over $8,000bn. Primary aluminium has been the most widely traded metal in recent years. It accounted for 47% of trading in 2006, followed by copper 24% and zinc 15%.

ICE Futures Europe Turnover more than doubled to 93m contracts in 2006 from 42m in 2005. This was due to 28m contracts traded in West Texas Intermediate launched in that year and a 45% rise in trading of Brent Crude futures to 44m. The exchange's share of global crude futures as measured by volume of light sweet crude oil rose to 48% in 2006 from 32% in 2005.

APX Group Total volumes in 2006 totalled 178 terawatt hours, 20% up on 2005 (Table 8). In 2006, 84% of the trading volume was concentrated in the UK gas market.

EDX London Trading in the exchange's 150 indices and single stock products totalled 29m contracts in 2006 up from 20m in 2005.

NYMEX Europe was set up in 2005 as the European subsidiary of NYMEX Holdings, Inc. Limited success in generating trading led to the closure of the exchange in May 2007.

Remote trading from the UK The UK is an important source of remote trading for the increasing volume of derivatives business globally that is transacted electronically. A geographic breakdown for the origination of Eurex derivatives contracts data shows that, since the move from floor to remote electronic trading in the mid-1990s, UK-based traders have become increasingly prominent. The share of Eurex contracts sourced from the UK has been at least 45% since 2003, reaching 48% in 2006, before easing back to 46% in the first nine months of 2007 (Chart 11). Liffe estimates that 60% of its business originates in London.

Table 7 Turnover of London-based derivatives exchanges

Millions of contracts traded each year

	ICE Futures Europe[1]	Liffe[2]	LME	EDX[3]	Total
1990	6.9	34.3	13.4	1.3	**55.9**
1995	15.0	136.4	47.2	3.1	**201.7**
1996	15.6	173.6	47.5	3.2	**239.9**
1997	14.7	209.3	57.4	4.4	**285.8**
1998	19.4	149.8	53.1	7.3	**229.6**
1999	23.0	117.8	61.5	10.4	**212.7**
2000	25.5	131.1	66.4	11.6	**234.6**
2001	26.4	619.1	59.4	15.9	**720.8**
2002	30.4	697.0	58.6	14.1	**800.1**
2003	33.3	695.1	72.3	14.8	**815.5**
2004	35.5	787.8	71.9	21.5	**916.7**
2005	42.1	759.3	78.6	20.3	**900.3**
2006	92.7	730.3	86.9	28.8	**938.8**
2007[4]	102.7	724.4	69.2	31.2	**927.5**

[1]IPE before 2005
[2]Includes other Liffe exchanges in Europe from 2001
[3]EDX London was created in 2003
[4]First nine months of 2007
Source: Exchanges

Table 8 Trading at APX

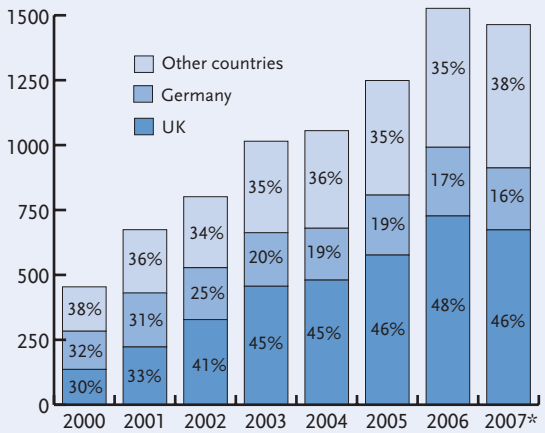
Volume of exchange turnover, terawatt hours (TWH)

	2003	2004	2005	2006
UKPX	6.9	7.1	8.8	10.0
APX Gas UK	98.1	106.0	123.8	149.0
APX spot	12.0	13.4	16.1	19.0
APX Gas NL/ZEE	---	---	0.3	0.2
Total	117.0	126.5	149.0	178.2

Source: APX Group

Chart 11 Turnover of Eurex participants by country of origin

Millions of contracts traded each year



Source: Eurex **First 9 months of 2007*

CONTRIBUTION OF DERIVATIVES TO THE UK ECONOMY

Derivatives provide a set of risk management tools for a wide range of organisations, so the wider economic contribution of derivatives is seen in the benefits they bring to individuals and businesses - access to finance at lower costs, achieving more stable commodity prices and controlling foreign exchange risk for importers and exporters.

Although these benefits are evident, the estimation of derivatives' contribution to the economy in terms of shares of GDP, employment and overseas earnings is not straightforward. In other financial markets the value of activity is related to revenue and profits of the firms involved. With derivatives the measures of market activity cannot be so easily ascertained, partly because the value of a derivative is related to the shifting value of the underlying asset. Such data as is available for the UK is set out below.

Employment related to the derivatives markets is widely spread across trading floors in investment banks, derivatives exchanges, other dealers of futures, options and commodities, and various support and back office functions. It is estimated that there are about 10,000 people employed in derivatives in central London.

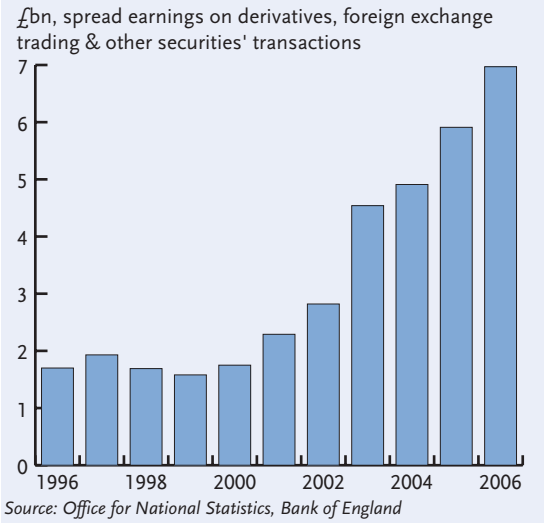
Overseas service earnings include banks' spread earnings and net fee income on derivatives contracts; fee income of futures and options dealers; and fees and commissions on exchange contracts of UK-based derivatives exchanges.

Banks' spread earnings and fee income Since the previous edition of IFSL's Derivatives report, The Bank of England has started to publish statistics on spread earnings of banks derived from derivatives, foreign exchange trading and other securities transactions. These net exports, currently published as an aggregate, have grown rapidly in recent years rising threefold from £2.3bn in 2001 to £6.9bn in 2006 (Chart 12). Derivatives are estimated to account for the majority of these spread earnings.

Banks' net fee income is based on gross derivative fees receivable from foreign residents for derivatives services, netted off against fees payable. Because of the move to inclusion of the commission in the spread, data reported by banks' to the Bank of England on their net overseas service earnings from derivatives have fallen steadily from a net contribution of around £250m a year during the 1990s to a deficit of £118m in 2006.

Fee income of futures and options dealers Net exports of futures and options dealers have not been separately identified in balance of payments statistics since 2002 when they totalled around £250m.

Chart 12 UK banks' net exports from spread earnings



Source: Office for National Statistics, Bank of England

Role of London derivatives exchanges

Liffe is the international derivatives business of Euronext, now a subsidiary of NYSE Euronext. The exchange's electronic trading platform LIFFE CONNECT provides a single European market for all its derivatives products. listed on its Amsterdam, Brussels, LIFFE, Lisbon & Paris exchanges. Products include futures and options on long-term interest rate products, on equity futures and indices, government bonds, currencies and commodities, and Bclear and CScreen wholesale services designed to attract business from OTC market users. Derivatives markets supported by LIFFE CONNECT are available to customers at over 820 locations in 31 countries worldwide. Other initiatives in recent years include the development of universal stock futures and a wholesale clearing service offered to the OTC market.

London Metal Exchange More than 95% of the world's business in non-ferrous metals futures is transacted at the London Metals Exchange (LME). The LME offers futures and traded options contracts on six primary metals - aluminium, copper, nickel, tin, lead and zinc and two aluminum alloy contracts - as well as a composite index of these metals. In 2005 the Exchange launched the world's first futures contracts for plastics, with the introduction of regional plastics contracts in 2007. LME also offers LMEminis, smaller-sized contracts for copper, aluminium and zinc, plus an index contract. The primary functions of the exchange are pricing, hedging and delivery: storage facilities are approved to facilitate delivery of approved brands of the metals traded. As the LME trades contracts for future delivery, it helps discover the future price of metals. This assists industry in forward planning as the price of metals is volatile.

ICE Futures Europe, a subsidiary of Intercontinental Exchange, operates the leading electronic regulated futures and options exchange for global energy markets. It offers liquid markets in the world's leading oil benchmarks, Brent Crude and West Texas futures, trading nearly half of the world global crude future by volume of commodity traded. The other major energy contracts are Gas Oil futures and options and Natural Gas futures. The exchange has also launched contracts for Baseload and Peakload electricity, Coal futures and for ECX carbon financial instruments. Formerly the International Petroleum Exchange, ICE Futures Europe is used by producers, distributors and consumers of energy to manage their price exposure in the physical energy market which can be extremely volatile.

EDX London was set up in 2003 by the London Stock Exchange with the aim of bringing equity and derivatives markets closer together and to broaden the scope of equity derivatives trading. There are three linked exchanges in Stockholm, Copenhagen and Oslo on which EDX London members can trade. EDX London also offers an OTC Clearing Service for over 100 European Bluechip Equity and Index futures and options.

APX Group operates power and gas exchanges for the wholesale market, providing markets for short-term trading in the Netherlands, the UK, and Belgium.

Fees and commissions on exchange contracts and clearing These are significant as a majority of customers of UK exchanges and clearing organisations are based overseas or owned by overseas companies, three-quarters in the case of Liffe and over 90% at the LME. The LME's annual overseas earnings have exceeded £250m in recent years.

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