

IOMA / IOCA

International Options Market Association /
International Options Clearing Houses Association

Derivatives Market Survey

2005



Conducted by WFE
With the help of Didier Davydoff,
IEM Finance

May 2006



As of December 2005, the members of IOMA / IOCA were:

American Stock Exchange	London Metal Exchange Ltd. (LME)
Athens Derivatives Exchanges	MEFF
Australian Stock Exchange	Mercado Mexicano de Derivados (MEXDER)
Bolsa de Valores do São Paulo (BOVESPA)	New York Board of Trade (NYBOT)
Borsa Italiana SpA	New York Mercantile Exchange (NYMEX)
Bourse de Montréal	NOS Clearing ASA
Bursa Malaysia Clearing	OMX Exchanges
Bursa Malaysia Derivatives	Osaka Securities Exchange
Canadian Derivatives Clearing Corp.	Oslo Børs
Chicago Board of Trade (CBOT)	Pacific Exchange (PCX)
Chicago Board Options Exchange	Philadelphia Stock Exchange (PHLX)
Chicago Mercantile Exchange (CME)	Singapore Exchange
Copenhagen Stock Exchange	Sydney Futures Exchange (SFE)
Eurex	Taiwan Futures Exchange (TAIFEX)
Euronext	Tel-Aviv Stock Exchange
Euronext.liffe	The Clearing Corporation
Hong Kong Exchanges and Clearing	The Options Clearing Corporation, Inc.
ICE Futures	Tokyo Stock Exchange
International Securities Exchange (ISE)	Wiener Börse AG
Korea Exchange	Zhengzhou Commodity Exchange
LCH.Clearnet	

Every effort has been made to ensure that the information in this Survey is accurate at the time of printing, but the Secretariat cannot accept responsibility for errors or omissions.



International Options Market Association

2005 Derivatives Market Survey

Table of Contents

Introduction	5
The Industry Structure	7
The Global Derivatives Market	8
Exchange and Product Trends	10
A. Equity Products.....	10
Stock Options.....	12
Stock Futures	15
Index options.....	17
Index Futures	20
B. Interest Rate Products	23
STIR Options and Futures	24
LTIR Options and Futures	28
C. Currency Products.....	32
D. Commodity Derivatives.....	37
Energy Derivatives	38
Metal Derivatives.....	39
Agricultural Derivatives	40
Concluding Remarks	45





INTRODUCTION

This report is the result of the annual survey conducted by the World Federation of Exchanges for the International Options Markets Association (IOMA) derivatives exchanges. This study follows similar studies carried out in previous years by WFE with the help of Stephen Wells, consultant to the WFE. For the sake of continuity, we adopted the same organisation for this report, and all data provided last year were updated.

The subject is the trading of derivatives products, and it covers 60 exchanges. Some of these exchanges trade a wide range of derivatives contracts, while many specialise in a single area of the market. The survey results were analysed into six groups representing underlying assets:

- Single equity
- Equity indices
- Short-term interest rates
- Long-term interest rates
- Currencies
- Commodities

The survey was compiled from questionnaire responses sent by IOMA members, and data from exchange websites. The author wishes to thank exchanges which responded to the questionnaire, and specially exchange staff who gave further assistance in response to enquiries.

The coverage of IOMA survey is the same as last year, apart from a few exceptions. The principal exception is the Chinese markets. Chinese commodity exchanges showed a tremendous growth in the past years. In 1998, futures business in China was restructured into three futures exchanges: the Zhengzhou Commodity Exchange, the Shanghai Futures Exchange and the Dalian Commodity Exchange, which became a major international market for soybean futures. In previous years, only the first of the three was taken into account in the IOMA survey. This year we decided to add information on the two others. Chinese markets are, and probably will be a major source of growth in derivatives trading, not only for agricultural products, but also financial ones.

Although outside IOMA membership, as a matter of interest we also included statistics of two Japanese commodities markets which were not included last year, the Central Japan Commodity Exchange and the Tokyo Grain Exchange ; statistics from the Argentinean market ROFEX (Rosario Futures Exchange) ; and the consolidated ICE Futures, a major market for energy derivatives (formerly known as the International Petroleum Exchange).



We have not been able to get statistics on the Indian Market (Bombay Stock Exchange) and this market is not included in the present study, contrary to previous years.¹

Finally, we added some additional information we considered relevant for the understanding of the derivatives business. The most notable is information concerning OTC derivatives produced by the BIS and some other central banks, as OTC trading can be a complement or a competitor of organised markets.

¹*The majority of exchanges responded to the questionnaire, and we wish to express our gratitude to them. For those exchanges which have not responded, some alternative sources were used. In some cases, the exchanges' web sites have been most helpful. Some data items are particularly difficult to obtain, especially those for transaction volumes. The data and corresponding comments on them are therefore less complete in some areas. Notional value, or underlying value, is the result of a calculation. Typically, an exchange will use an average price over the year to value the traded contracts. Where exchanges have not submitted figures, we have made our own estimates using the same method.*



THE INDUSTRY STRUCTURE

As previous years, the year 2005 saw some modifications in the derivatives exchange business. Four exchanges have merged or were absorbed, another one stopped listing derivatives:

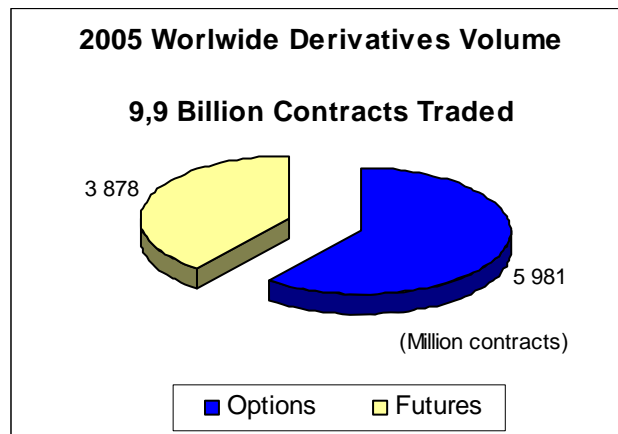
- At the beginning of 2005, Archipelago Holdings, the parent company of the Archipelago Exchange (ArcaEx), acquired PCX Holding, the parent company of the Pacific Exchange (PCX) and PCX Equities. Following the merger of NYSE and Archipelago in March 2006, the Pacific Exchange, which is a major equity options market, therefore became part of NYSE Group.
- The Korea Futures Exchange merged with the Korean Stock Exchange to constitute “the Korea Exchange” (KRX).
- The Copenhagen stock and index derivatives have been absorbed into OMX. This merger has no major statistical impact on OMX turnover statistics. For instance, in 2004 16.4 millions index futures were traded on OMX and 0.6 million in Copenhagen.
- The Tokyo Grain Exchange and Yokohama Commodity Exchange signed a merger agreement in January 2005.
- In January 2005, the Istanbul Stock Exchange (ISE) Derivatives Market, where currency futures contracts were traded, closed, and currency futures were transferred to Turkish Derivatives Exchange Inc. (TurkDEX). TurkDEX lists currency, interest rate, equity index and commodity futures contracts. In 2005, TurkDEX recorded 1.7 million traded contracts, including 1.6 million currency futures.

Products added or dropped during 2005		
	Added	Dropped
Stock options	Korea Exchange Warsaw SE	
Stock futures	Buenos Aires SE Eurex	
STIR futures	JSE South Africa	
LTIR options	Warsaw SE	Euronext.liffe
Currency options	Montreal Exchange	
Currency futures	Turkish Derivatives Ex. EUREX US	
Commodity options	Australian SE Budapest SE	
Commodity futures	Budapest SE ICE Futures (carbon emissions)	Korea Exchange

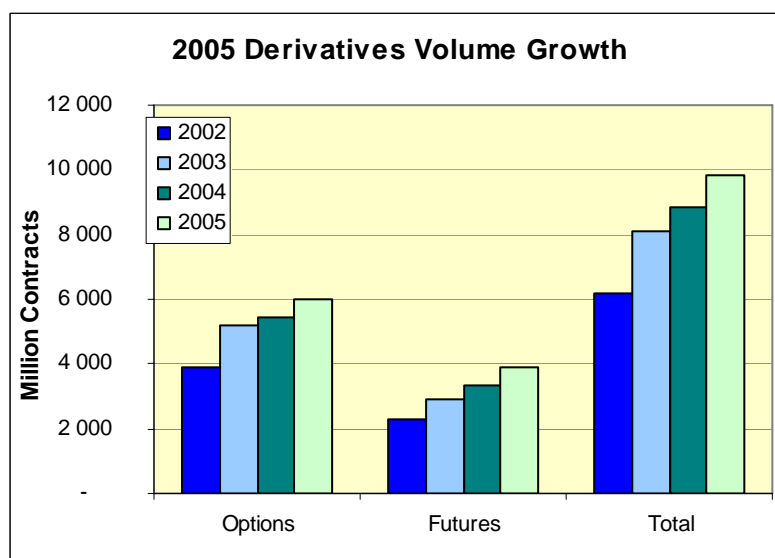


THE GLOBAL DERIVATIVES MARKET

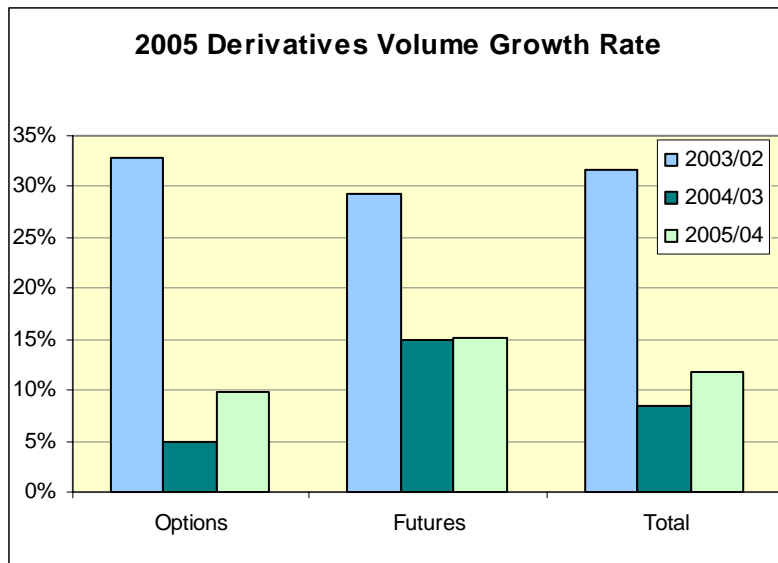
A new historic record of 9.9 billion derivative contracts were transacted in 2005 on exchanges worldwide, out of which 3.9 billion were futures and 6.0 billion options.



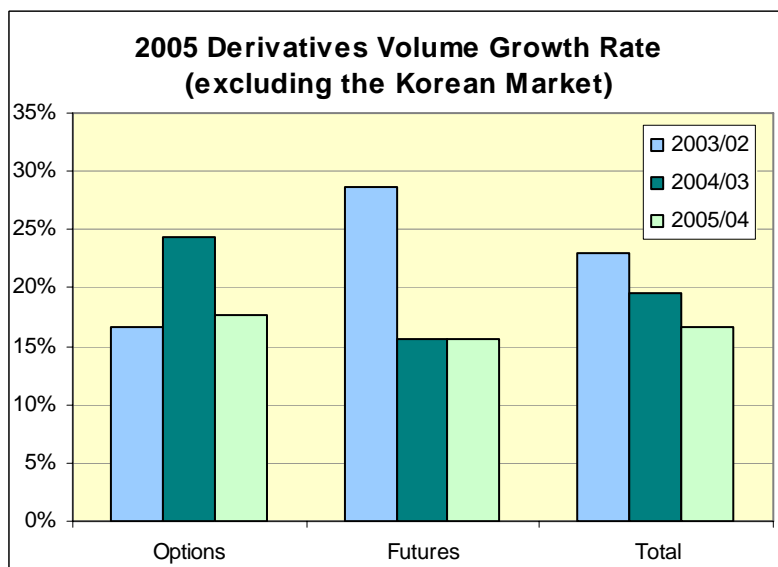
This increase of derivative markets' activity in 2005 confirms their continuing growth in recent years. From 2002 to 2005, the average annual growth rate of the number of traded contracts reached 15 % for options and 20% for futures.



Although the rate of growth did not reach the exceptional levels of 2002 and 2003, it doubled in 2005 to + 10% for options as compared to +5% in 2004, and it remained as strong in 2005 as in 2004 (+15%) for futures.



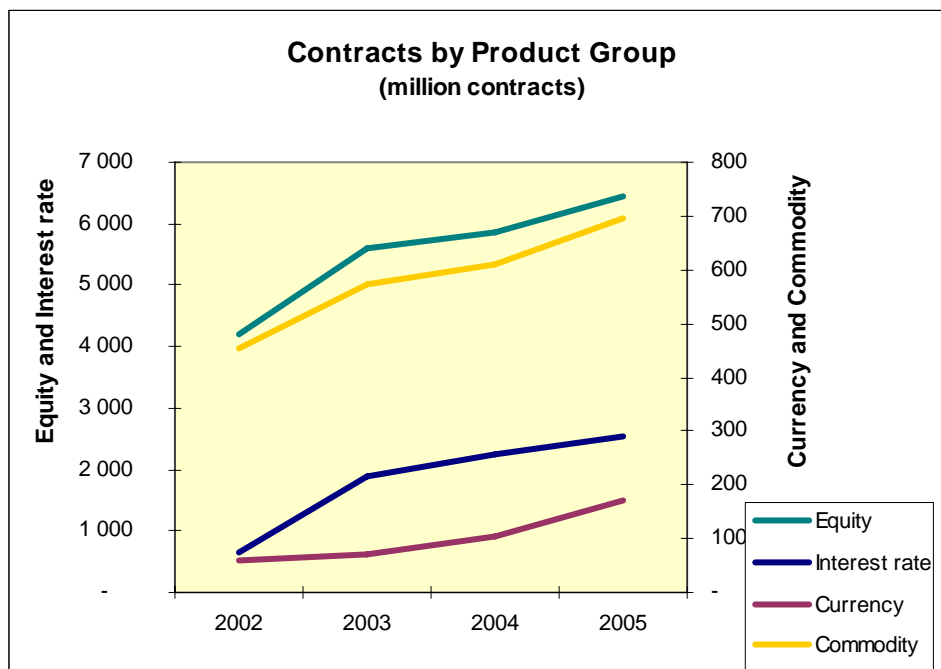
The global activity of derivatives exchanges has been heavily influenced by the tremendous growth of the Korea Exchange in option trading up to 2003. The Korea Exchange's trading – mostly concentrated on the KOSPI 200 index options – still accounts for 27 % of the global derivatives market activity, but it fell in 2004 and showed a mere stabilisation in 2005. When the Korea Exchange statistics are excluded for the purpose of better understanding what business developments are elsewhere, options turnover increased by 18% in 2005 against 24% in 2004.





EXCHANGE AND PRODUCT TRENDS

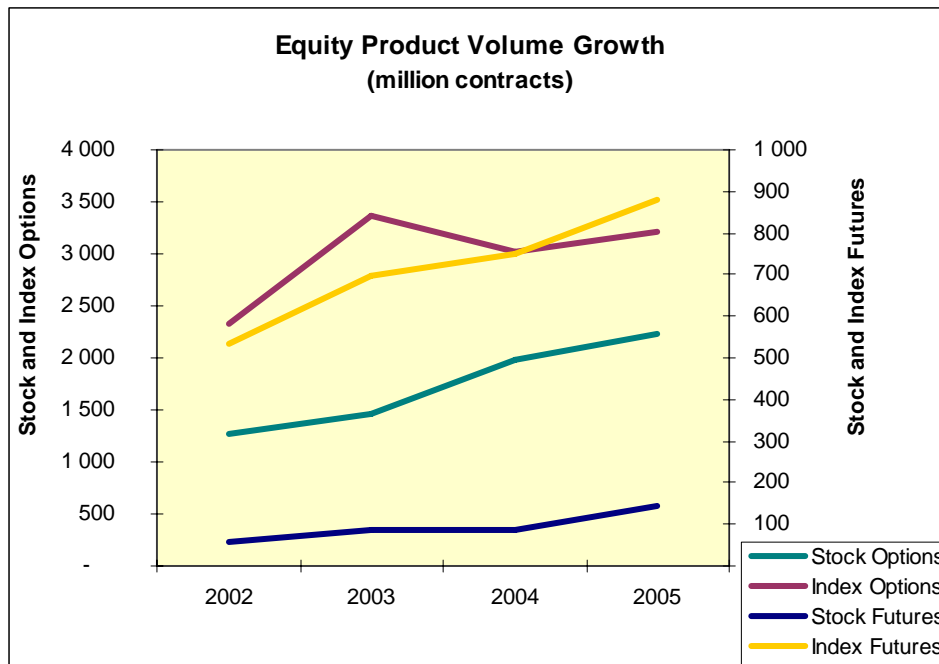
In 2005, contract volumes increased for all products. The growth of equity, currency and commodity products accelerated, whereas interest rate products' activity stabilised.



A - EQUITY PRODUCTS

Equity products account for 66% of the number of traded contracts.

Among equity products, index options account for half of the turnover in volume. For index options, the Korea Exchange accounts for 79%. The growth of 5% in equity products turnover is therefore the result of a stabilisation of the KOSPI 200 index options, and growth of 8% in other products.



Retail investors play a greater role in equity-linked derivatives trading than they do in other segments of the derivatives market. This feature is especially pronounced in single equity options and futures trading, and less prevalent in index futures trading. Market organisers tend to design equity derivatives products with smaller contract size, as shown in the table below which reports the ratio of the total notional value of trading to the number of contracts for those markets providing the information.

Average notional value of one contract in 2005 (all markets), in thousands of US \$	
Equity options	2
Equity futures	5
Stock index options	19
Stock index futures	57

OTC trading in equity-linked derivatives is much less significant than on other derivatives segments. At end of June 2005, the notional amount outstanding was USD 5.1 billion, i.e. less than 2% of the total OTC derivatives outstanding on all underlying products.

However, an OTC inter-bank stock and index options market has developed, notably in Europe. Intermediaries have had to hedge their proprietary books resulting from the structured products and guaranteed funds they have increasingly offered to their clients after the burst of the equity speculative bubble in 2000, because of the increase in clients' risk aversion. The use of Master Agreements written by ISDA has helped to limit their operational risk, and the cost of counterparty risk is assumed to be small when trading with a limited number of big and well-established banks.



European and Asian equity-linked OTC options stabilised in terms of notional amounts outstanding, whereas organised markets continued to increase their turnover. By contrast, there was a sharp rise in the notional outstanding amounts of American equities.

Notional amounts outstanding of OTC equity-linked derivatives				
		Notional amounts in billions of USD		Annual Change
		<i>June 2004</i>	<i>June 2005</i>	<i>June 2005/June 2004</i>
American equities	Options	691	1191	+ 72%
	Forwards and swaps	231	653	+ 183%
European equities	Options	2385	2283	- 4%
	Forwards and swaps	383	617	+ 61%
Asian equities	Options	664	366	- 45%
	Forwards and swaps	29	40	+ 38%

Source: BIS

➤ **Stock Options**

Trading volumes in stock options have risen 75% since 2002, driven by increasing demand from hedge funds and retail investors. In 2005, they continued to grow rapidly (+13 %), albeit at a slower pace than in 2004 (+ 28 %).

The Americas are by far the most active in stock options trading, followed by the European time zone. The Asia-Pacific time zone tends to lag behind.

In the US, the growth was strong again in 2005 (+17%). QQQ options, of which the underlying security is the ETF tracking the NASDAQ index performance, are traded on ISE, AMEX and the Philadelphia Stock Exchange. When volumes of the three markets are aggregated, the QQQ ranks as the second most actively traded options in the world.

Competition for order flow is very tough in the US, as most liquid options classes became multi-listed. Only five years after its creation in May 2000, ISE maintained its leader position as the world's most active stock options market. It was followed in the US by CBOE, AMEX and, in the fourth position, the Philadelphia Exchange and the Pacific Exchange which recorded almost equal turnover figures. ISE, CBOE and the Philadelphia Stock Exchange showed nearly a 23% growth rate. The Pacific Exchange rose by +40.2%. Sao Paulo continued to grow, and in 2005 became the

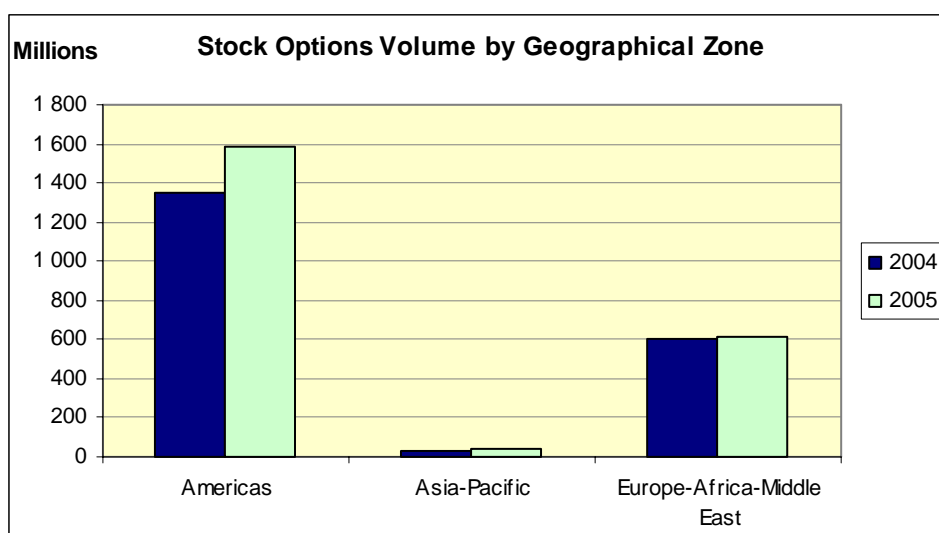


third biggest exchange in the world for stock options. Options trading in Sao Paulo is highly concentrated: Telemar and Net PN N2 account for 91% of stock option trading this business. Telemar PN was the most actively traded option in the world in 2005. In the Americas, only AMEX and Buenos Aires exchanges showed a slight decrease in volumes.

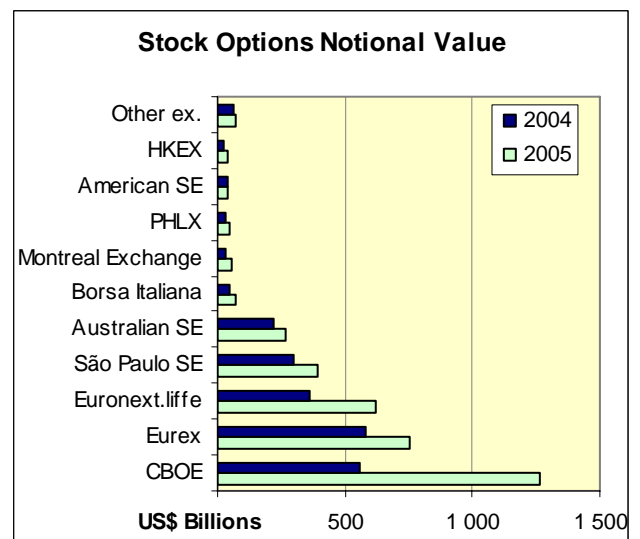
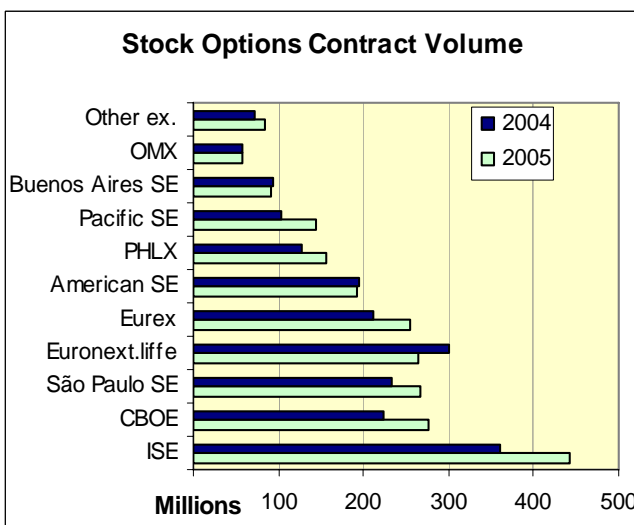
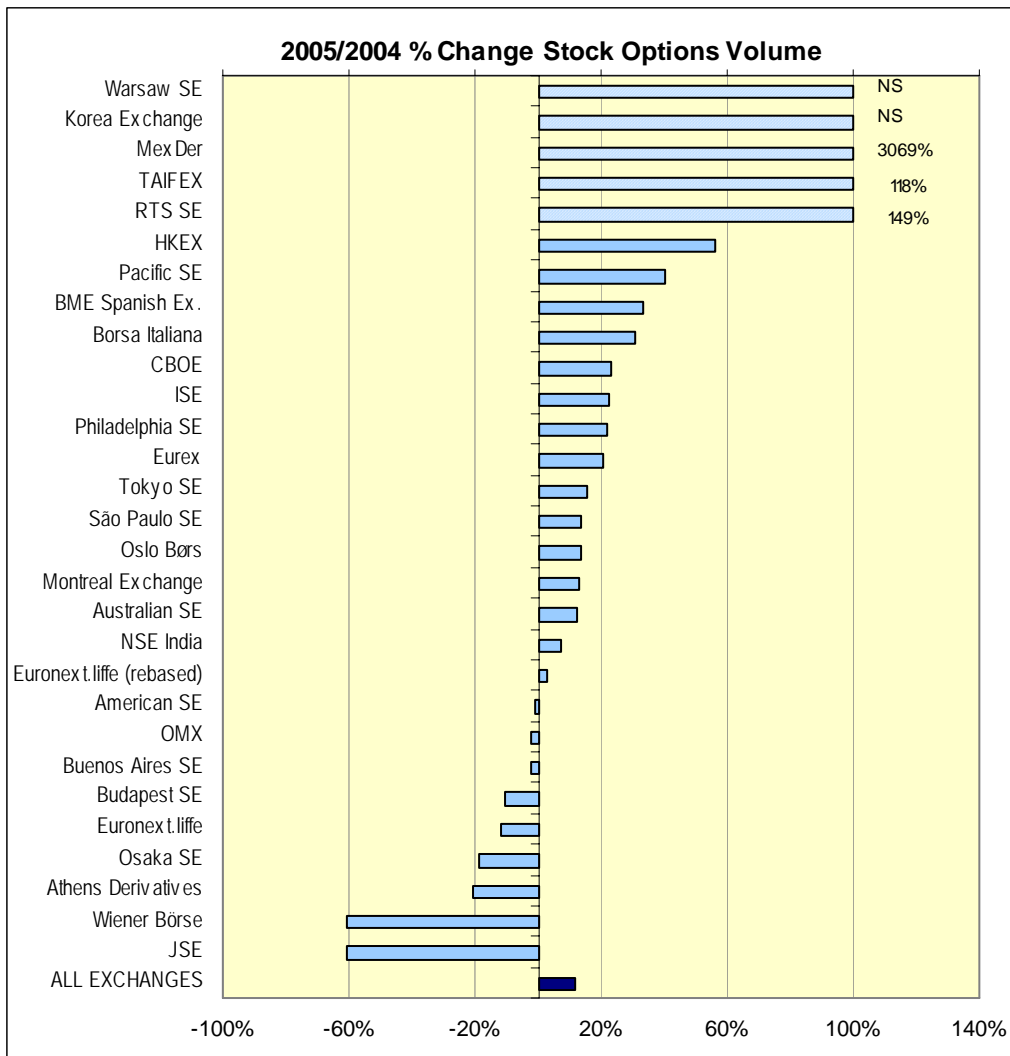
Six of the ten most actively traded stock options in the world are European, including Allianz, which ranks second for the number of traded contracts. But the growth of options trading slowed down in the Europe/Africa region in 2005 (+2%), pushed down by Johannesburg, Athens and Euronext.liffe. Among Euronext.liffe markets, the turnover rose sharply in Amsterdam (+50%) and the fall in Paris was the consequence of a multiplication by ten of the contract size. When the statistics are rebased, then the number of traded contracts shows a slight growth of 3%, instead of a fall of 12%. With 265 million contracts, Euronext.liffe is still the biggest market in the region for this category of products, but Eurex now comes just behind with 256 millions traded contracts (+21%). Other European exchanges were stable or growing.

In Asia, all stock options markets have been growing, but the size of these markets is still much smaller than the American and the European ones. The most actively traded Asian stock option is HSBC, listed in Hong Kong, and which ranks 45th in the world for the number of traded contracts.

The first indications on 2006 trading volumes witnessed an acceleration of activity: in the US, the number of traded contracts rose 37 % and in Europe more than 30%² in the first quarter of 2006, as compared to the first quarter of 2005.



² Excluding Euronext, for which we have not “rebased” figures taking into account the change of contracts size implemented in the course of 2005.





The 20 most actively traded stock options in the world in 2005			
	Underlying Equity	Millions of traded contracts	Exchange
1	Telemar PN	212	São Paulo SE
2	Allianz	43	Eurex
3	Ericsson B	33	OMX Stockholm SE
4	QQQ	30	ISE
5	Net PN N2	30	São Paulo SE
6	Münchener Rückversicherung	19	Eurex
7	Petrobras PN	16	São Paulo SE
8	Nokia	16	Eurex
9	Royal Dutch Petroleum	15	Euronext.liffe
10	Deutsche Telekom	15	Eurex
11	GOOG	15	ISE
12	Alcatel (100)	15	Euronext.liffe
13	QQQ	15	Amex
14	SAP	14	Eurex
15	Vivendi Universal (100)	12	Euronext.liffe
16	France Telecom (100)	11	Euronext.liffe
17	STMicroelectronics (100)	11	Euronext.liffe
18	AAPL	10	ISE
19	SPY	10	ISE
20	QQQ	8	Philadelphia SE

➤ Stock Futures

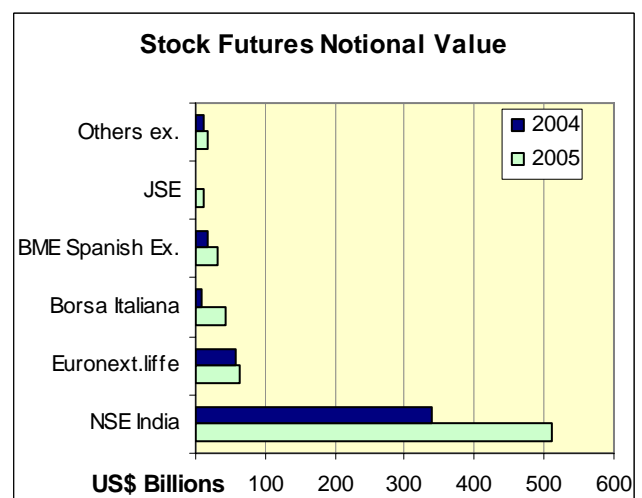
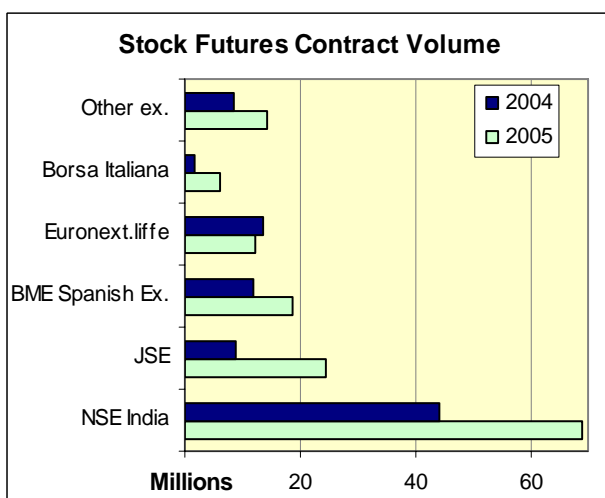
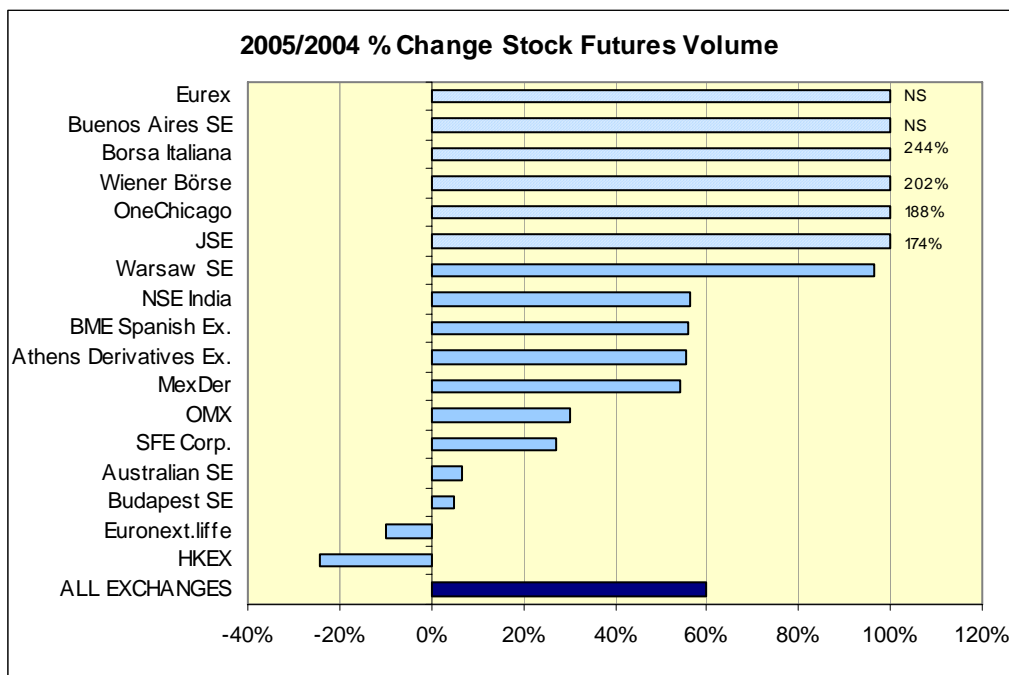
Stock futures are an example of successful innovation by derivatives exchanges. With a global market share of almost 50%, NSE India remains the leader. Its activity rose 56% in 2005. In Asia, the Australian Stock Exchange and Sydney Futures Exchange also saw a steady growth of their turnover. Only Hong Kong Exchanges experienced a decrease.

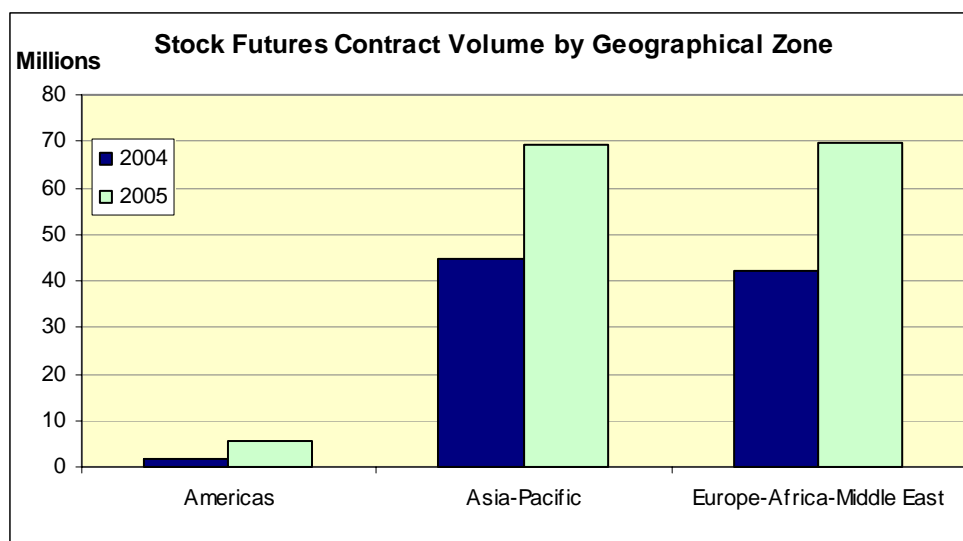
In the European time zone, the leader in terms of number of traded contracts is JSE, whose activity in these products almost tripled. The most active in Europe are the BME Spanish Exchanges. The traded volumes in stock futures had slightly decreased at BME in 2004, but they grew again rapidly in 2005 (+56%). The number of contracts on Euronext.liffe decreased by almost 10%, but the exchange remains the leader in terms of notional traded value, and its activity according to this criterion rose by 11%. Borsa Italiana turnover more than tripled, and the Exchange became the second in Europe in terms of notional traded value. Athens, Budapest, OMX, Warsaw and Wiener Börse exchanges showed brilliant results as well. First indications on 2006 turnover confirm the success of stock futures in Europe, as many more contracts were traded in the first quarter of 2006 than in the first quarter of 2005.



In the United States, the SEC and CFTC allowed trading in stock futures only recently and there is as yet no significant trading on stock futures.

Finally two new exchanges introduced trading in stock futures in 2005: Buenos Aires Exchange, following MexDer, which was already active in these products in Latin America ; and Eurex.





➤ Index Options

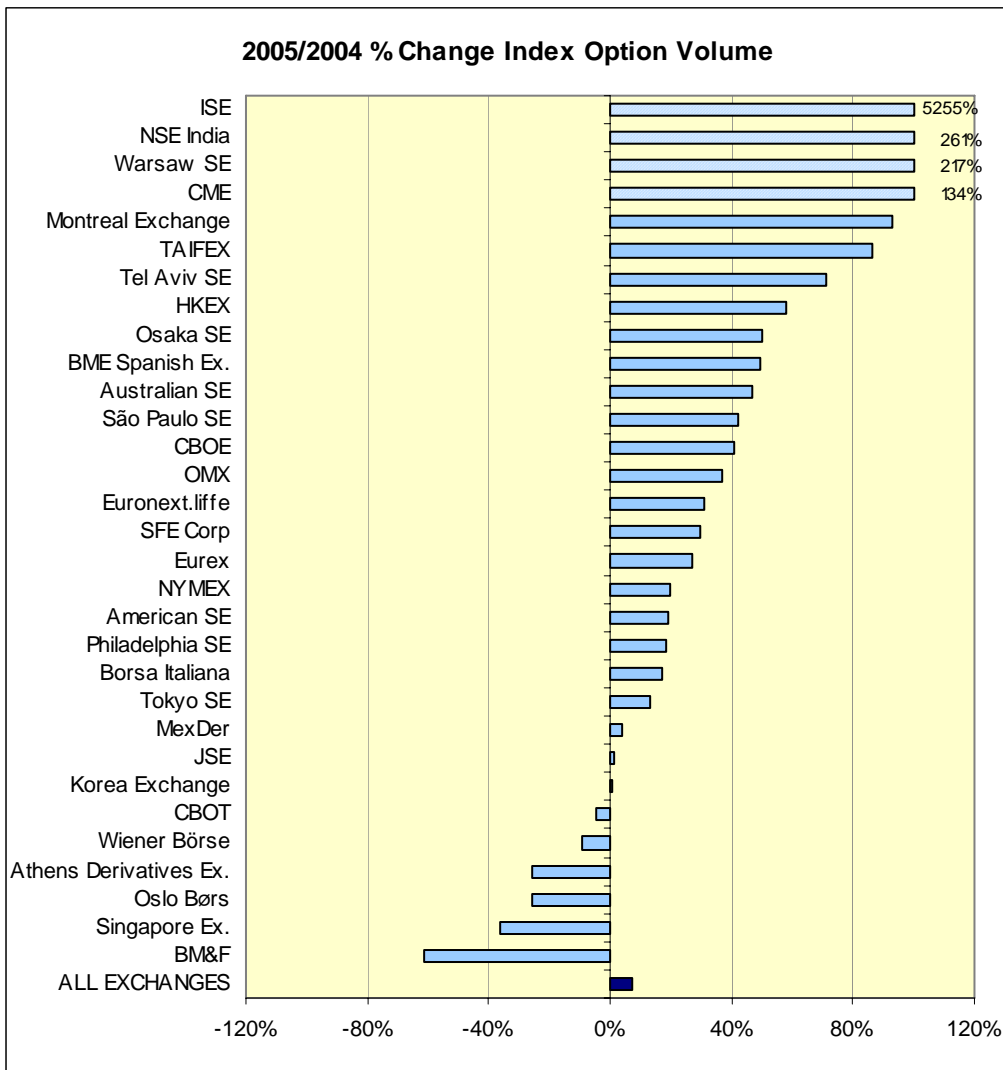
As recalled in the introduction to the equity products section, the KOSPI 200 options continue to be the biggest component by far of this segment of derivatives markets. After several years of exponential growth, 2004 had shown a reversal. In 2005, the turnover stabilised at the huge number of 2.5 billion contracts traded, and first indications in 2006 seem to point to a new upward movement: turnover in the first quarter of 2006 rose 27% as compared to the first quarter in 2005.

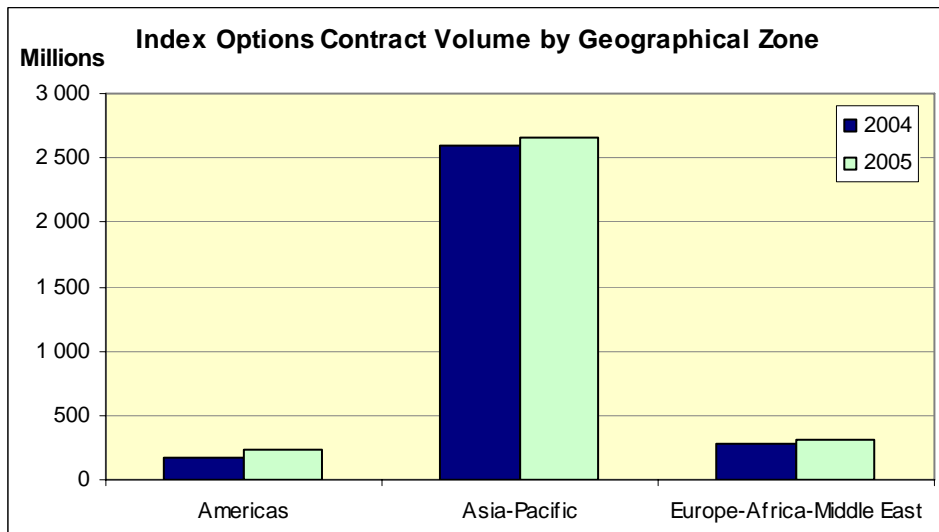
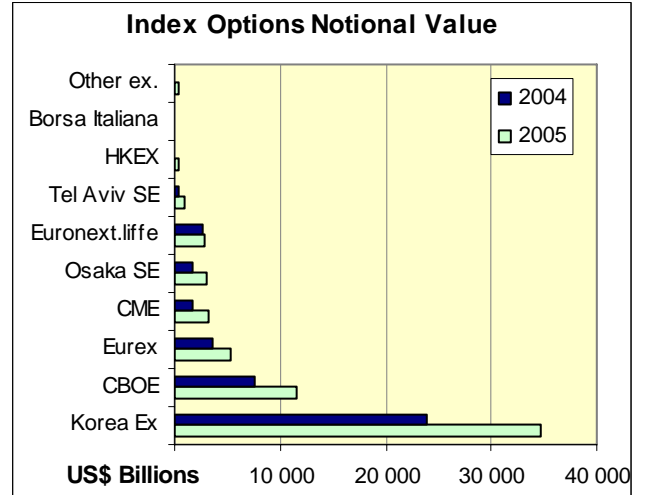
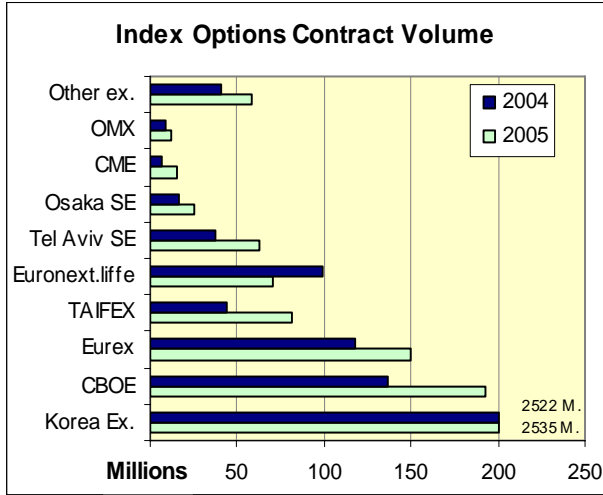
Most other major index options market volumes rose in 2005. CBOE and Eurex maintained their second and third positions. Euronext.liffe is an exception, with an apparent fall of 29%. However, as for stock options, the turnover in terms of number of traded contracts has been artificially pushed down by the multiplication by ten of the CAC 40 contract size. Euronext.liffe index options' rebased figures were stable in 2005 when compared to 2004.

CME and some markets which are in the early stage of development of their index options business showed an exponential growth in their turnover figures. These markets include NSE India, and the Warsaw, Tel Aviv and ISE exchanges.

Only a few exchanges showed a decline in their index options turnover.

Except for the KOSPI 200 and the CAC 40 index options, the 10 most active index options all grew strongly in 2005. Thanks to an increase of turnover of 82%, the TAIEX options of TAIFEX topped the S&P 500 as the third most traded index option class, behind the KOSPI 200 and the Dow Jones Euro STOXX 50. TA-25 options traded on the Tel Aviv Stock Exchange also showed very strong growth (+70%) and they ranked fifth.







The 10 most actively traded index options in the world in 2005				
	Underlying Index	Millions of Options traded	Annual Change	Exchange
1	KOSPI 200	2 535	+ 1%	Korea Exchange
2	Dow Jones Euro STOXX 50	91	+ 28%	Eurex
3	TAIEX	80	+ 82%	TAIFEX
4	S&P 500	72	+ 47%	CBOE
5	TA-25	63	+ 70%	Tel Aviv Stock Exchange
6	DAX	54	+ 29%	Eurex
7	CAC 40	34	- 6%	Euronext.liffe
8	Nikkei 225	25	+ 47%	Osaka Securities Exchange
9	AEX	20	+ 18%	Euronext.liffe
10	S&P 100	19	+ 19%	CBOE

➤ Index Futures

The growth of overall volumes of index futures accelerated in 2005 to 17% against 7% in 2004. However, the 27% growth of notional values was similar to 2004 figures, reflecting cash markets rising at a slower pace in 2005.

The Americas increased their dominant position in this market segment over the other two regions.

The CME accounted for 91% of trading in the Americas, and more than half of the global total. Its turnover rose 24% in 2005. Two main contracts concentrate three quarters of the activity : the MINI S&P futures account for more than half, and the E-MINI NASDAQ for one fifth. In terms of notional value of trading, the S&P 500 is still the second biggest contract behind the MINI S&P. However, the MINI S&P reinforced its dominance as it is the only of the three to have shown an increase of trading volumes in 2005 (+23%).

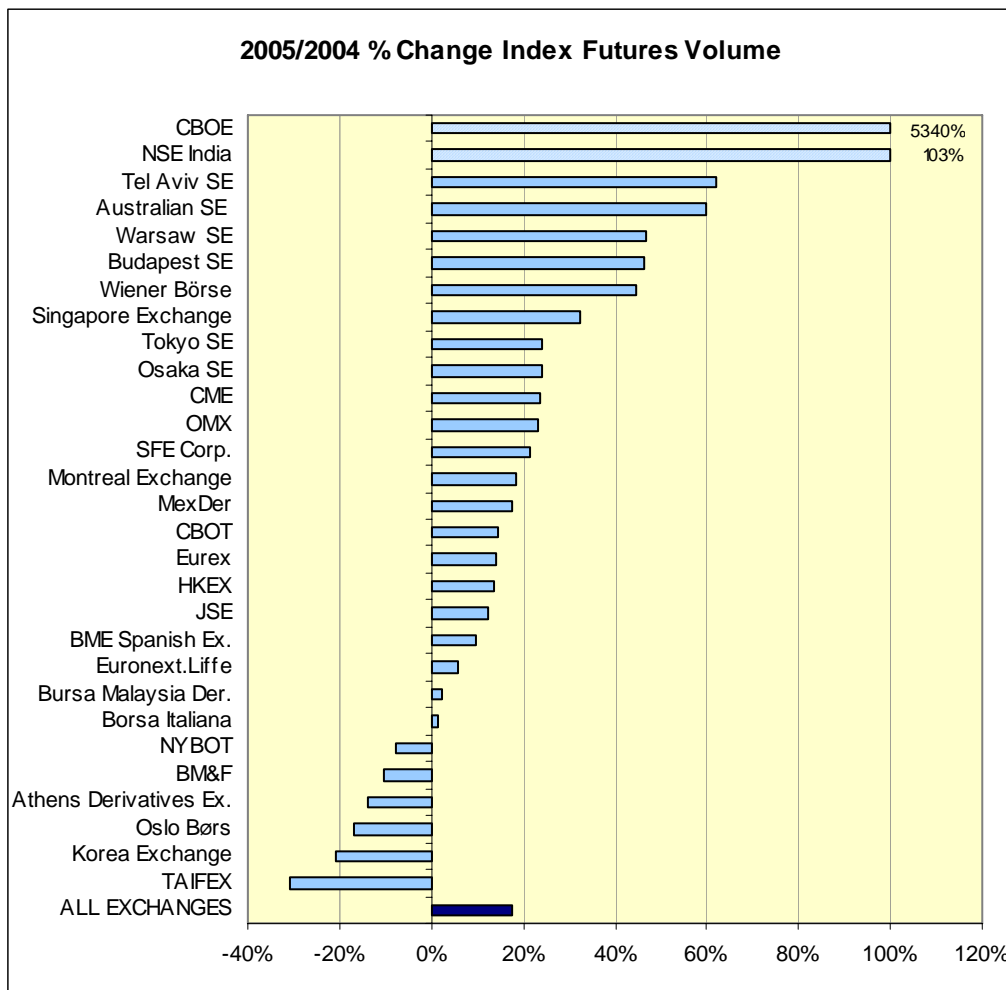
In Europe, Eurex maintained its leading position with a market share of 21%, thanks to its Dow Jones EURO STOXX 50 future which represented more than three quarters of its turnover on this market segment. The Dow Jones EURO STOXX 50 future continues to grow more rapidly than futures on European national indices, reflecting an increasing integration of the euro zone market. The single currency appears to be the driver of this integration, as futures on pan-European indices (including non-EMU countries) have not taken a significant market share up to now. Following Eurex, Euronext.liffe and OMX maintained their second and third positions in Europe.

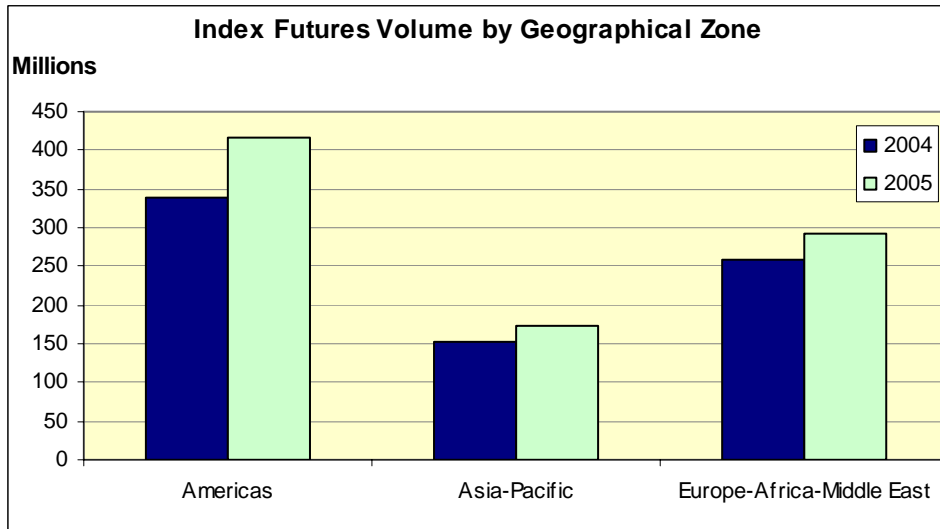
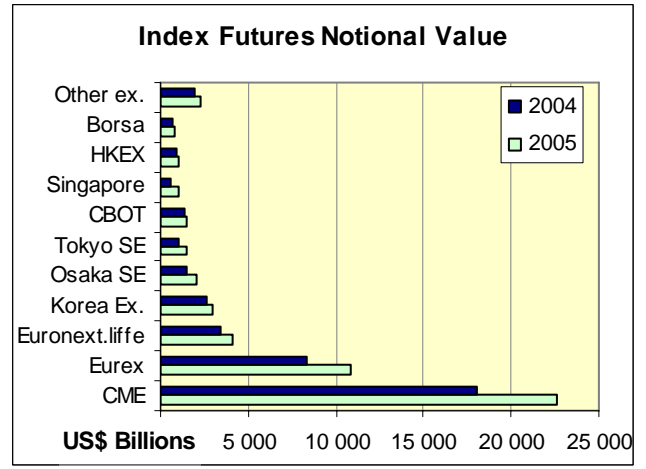
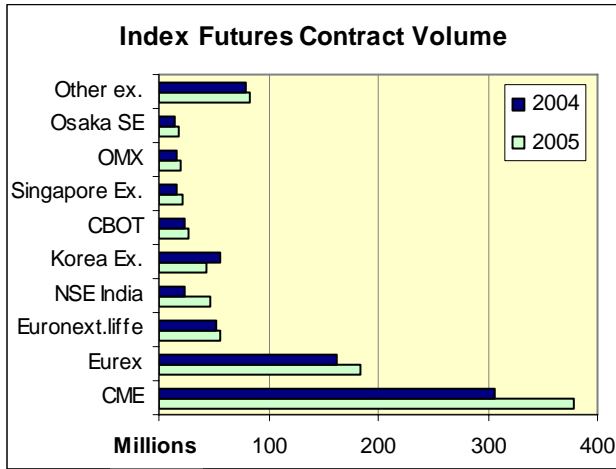
The Tel Aviv, Warsaw, Budapest and Wiener Börse exchanges saw a rapid growth of their index futures trading, exceeding 40%. On the whole, the index options grew by 16% in the European time zone and the first statistics for 2006 confirm this rising



trend: in the first quarter of 2006, the turnover rose 13% in Europe as compared to the same period of 2005.

In Asia, NSE India showed a strong increase in 2005 and in percentage of growth topped the Korea Exchange, which showed a decrease of trading on the KOSPI 200 index future. All other Asian markets except TAIFEX showed an increase of turnover, but the overall index futures trading activity of the region is still lesser than the two other regions.







B - INTEREST RATE PRODUCTS

The turnover of interest rate products rose by 12% in 2005, driven by long term interest rate (LTIR) futures and short-term interest rate (STIR) options, respectively 15% and 38%. STIR futures and LTIR options grew less rapidly, respectively by 3 % and 7 %.

The STIR derivatives market is mainly an inter-bank market, and the notional value of one contract is usually equivalent to USD one million. The LTIR derivatives are also used by institutions, and their notional value is usually in the range of USD100-150 thousand.

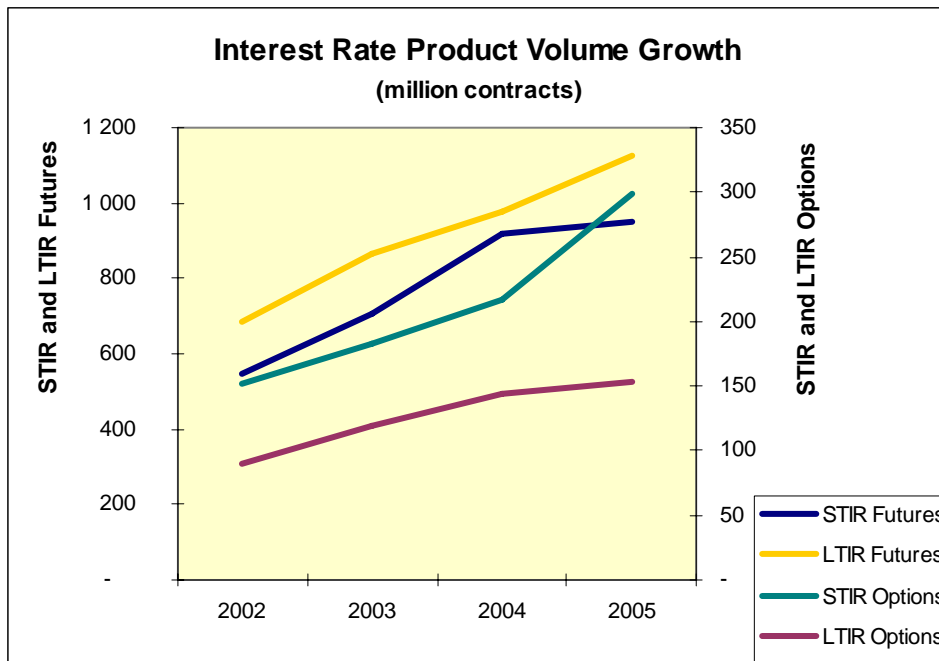
This market complements the interest rate OTC market.

OTC US dollar-denominated interest rate products showed a sharp rise in the first semester of 2005 compared to the same period of 2004. GBP products also rose significantly. The rise of products denominated in other national currencies was smaller in 2005, and those denominated in euros were stable.

Notional amounts outstanding of OTC interest rate derivatives by currency			
	Notional amounts in billions of USD		Annual Change
	<i>June 2004</i>	<i>June 2005</i>	<i>June 2005/June 2004</i>
Euro	76,2	76,4	+0,3
US dollar	61,1	72,2	+18,2
Japanese yen	24,2	25,2	+4,1
Pound sterling	15,3	16,6	+8,5
Other currencies	13,7	14,0	+2,2
Total	190,5	204,4	+7,3

Source: BIS

The same trends were observed in organised markets for STIR derivatives: US markets grew more than European ones. By contrast, activity on LTIR derivatives grew as much or more in Europe than in the US.



➤ STIR Options and Futures

The sharp rise of turnover in Eurodollar derivatives traded on CME, and the moderate rise in Euribor derivatives traded on Euronext.liffe was in line with trends on the OTC market. The growth of the 3-month sterling derivatives traded on Euronext.liffe was as strong as the Eurodollar one, whereas it was somewhat more moderate on the OTC market.

Volume traded in 2005 in main STIR derivatives (millions of contracts)				
		2005	2004	2005/2004 (in %)
CME	Eurodollar futures	410,4	297,6	+37,9
	Eurodollar options	134,3	91,6	+46,6
	Total eurodollar contracts	544,7	389,2	+40,0
Euronext.liffe	3-month euro futures	166,7	157,7	+5,7
	3-month euro options	44,2	52,2	-15,3
	Total 3-month euro derivatives	210,9	209,9	+0,5
	3-month sterling futures	68,0	51,3	+32,6
	3-month sterling options	25,1	16,3	+54,0
	Total 3-month sterling derivatives	93,1	67,6	+37,7



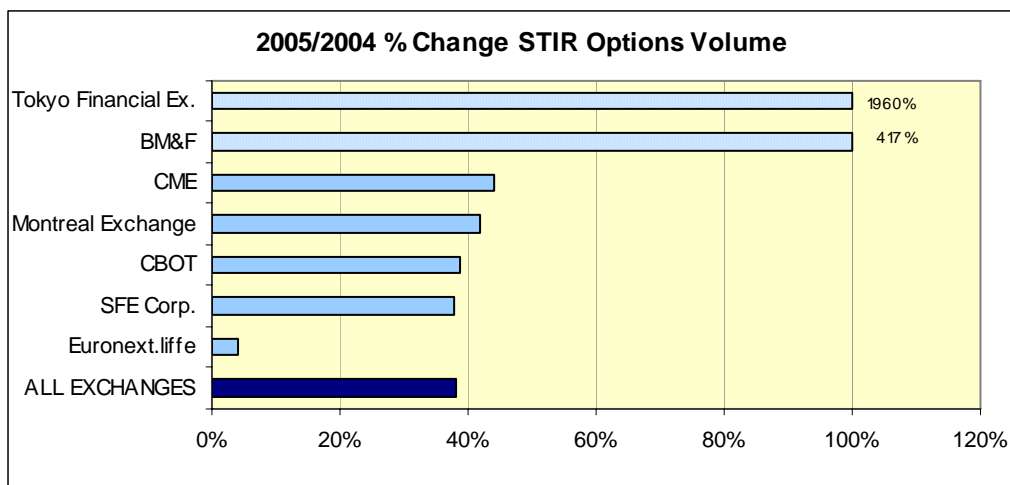
The STIR instruments are still mainly traded on CME and Euronext.liffe, with a market share of these two markets close to 75%. Due to general trends of their main products already mentioned above, the growth was stronger on CME than on Euronext.liffe.

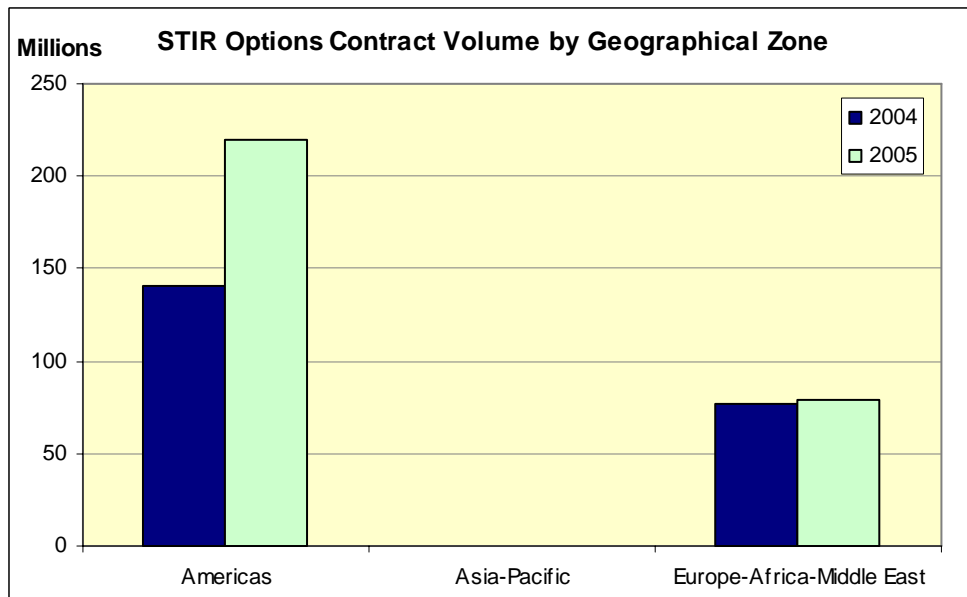
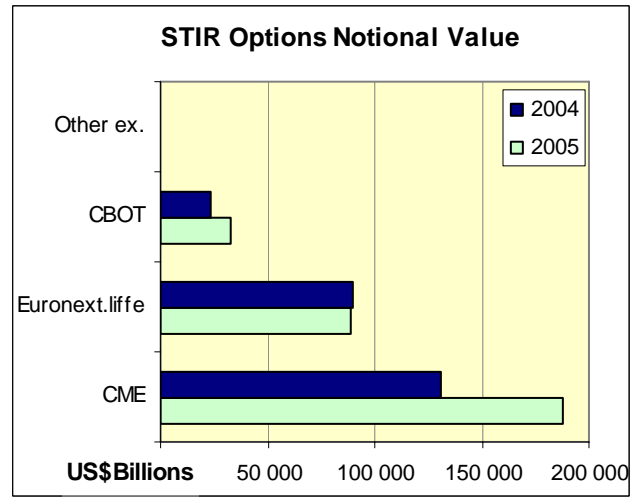
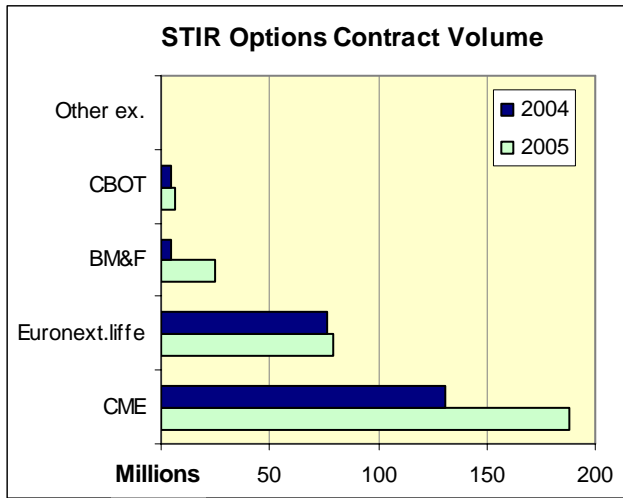
In the Americas, the Montreal Exchange and CBOT showed steady growth in their turnover, but their volumes were still far behind those of CME. STIR options and futures trading fell on Mexder and BM&F.

In Asia, trading on STIR futures grew on the SFE, the Singapore Exchange and the Tokyo Financial Exchange, but trading in Asia-Pacific international currencies, notably the Japanese yen, still lags behind trading in US dollars and in euros.

In Europe, OMX ranks second for STIR futures and rose more than 40% in 2005. Other markets present on this segment are Eurex, the JSE and the Budapest Stock Exchange. Euronext.liffe is the only player in Europe for STIR options.

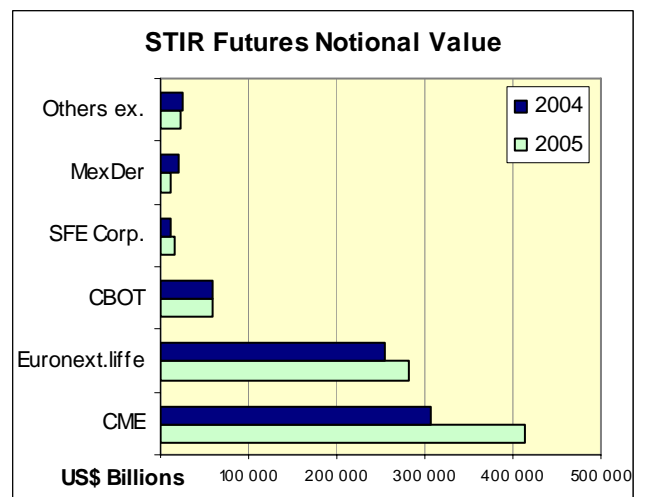
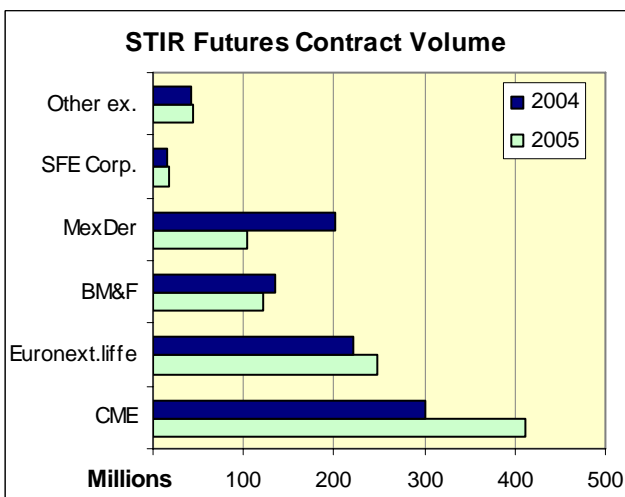
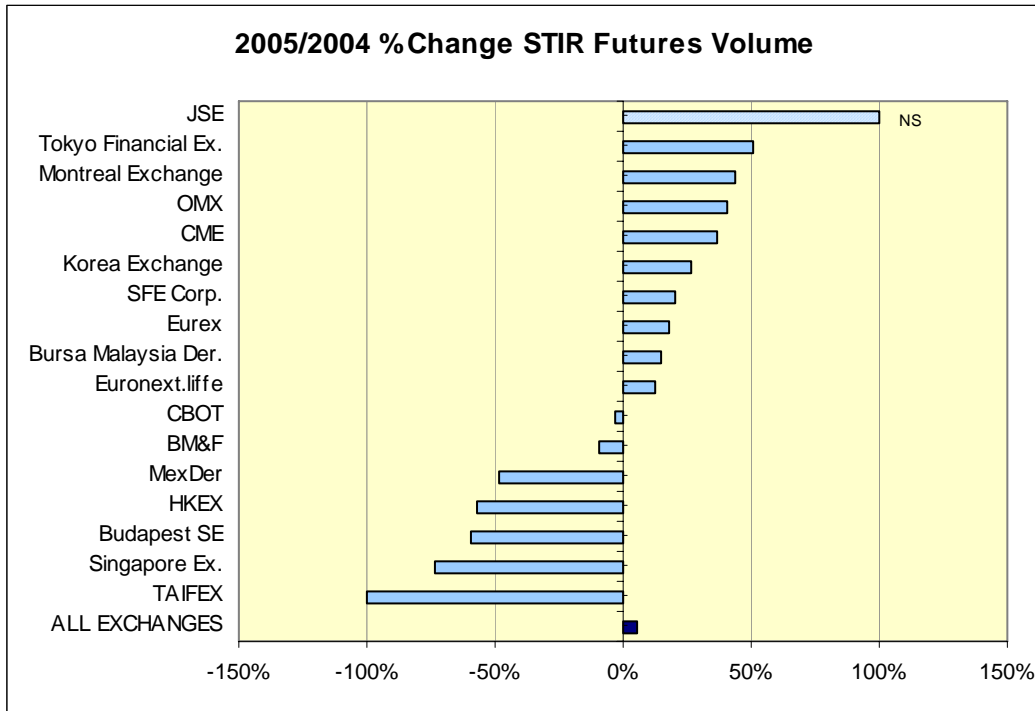
a) STIR Options

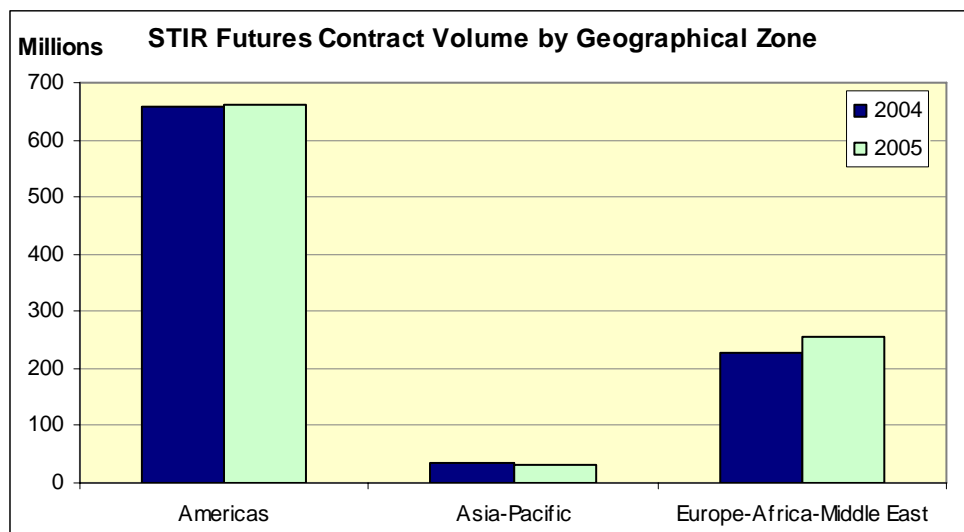






b) STIR Futures





➤ **LTIR options and futures**

The picture of global trading in LTIR derivatives did not change significantly in 2005. CBOT and Eurex still concentrate 93% of LTIR futures trading and 97% of options. The main underlyings of these contracts did not change: either German bonds on Eurex (Euro Bund, Euro Bobl and Euro Schatz), and US Treasury notes on the CBOT.

In 2005, options volume rose slightly on CBOT (2%) following the sharp increase of 2004 (33%). The rate of growth was higher on Eurex (14%). The growth of LTIR futures remained strong both on CBOT (+16%) and Eurex (15%).

Other LTIR products are traded on the Tokyo Sock Exchange and the Sydney Futures Exchange, which show modest numbers of traded contracts with significant notional values. In Tokyo, the volume of options rose last year, but the futures fell. In Sydney, options stabilised and futures volumes rose.

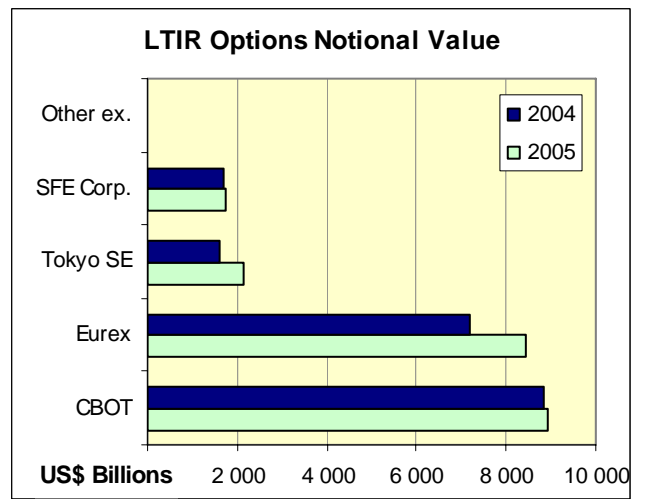
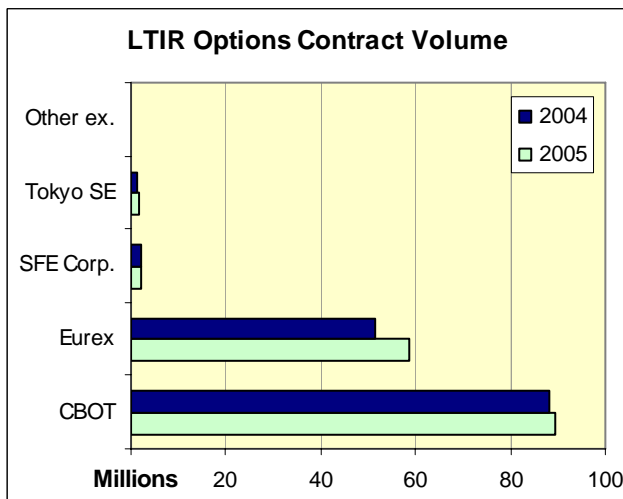
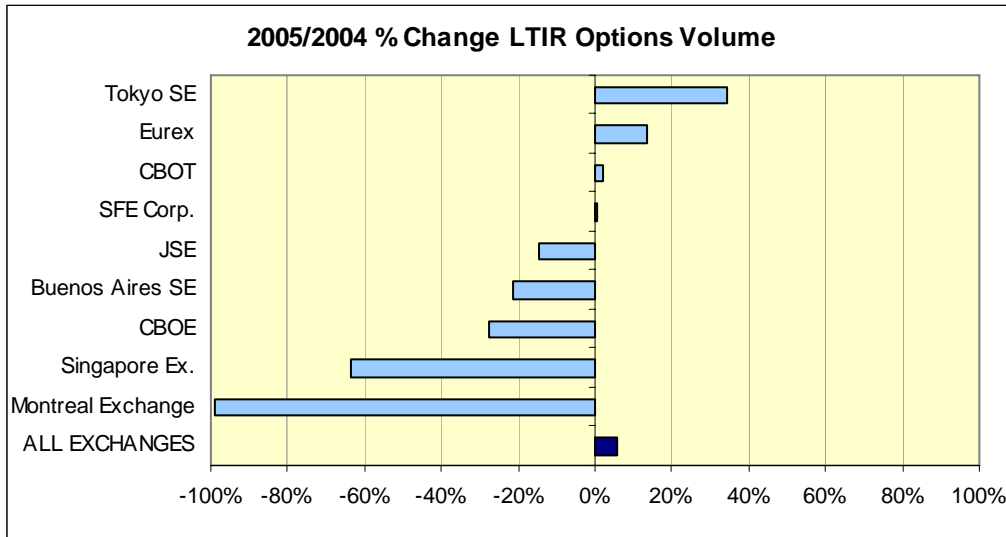
In the Americas, LTIR options traded on the Buenos Aires Stock Exchange and on CBOE, and futures traded on the Montreal Exchange and Mexder, all declined in 2005. LTIR options stopped being traded on the Montreal Exchange.

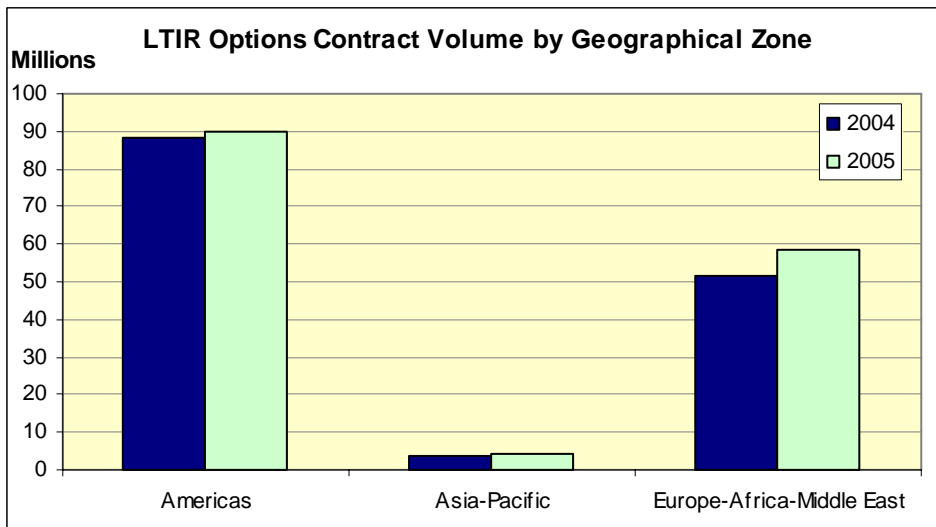
In Europe, Euronext.liffe showed an increase of its futures trading but options were no longer traded in 2005. Options were stable on the JSE and BME Spanish Exchanges. Warsaw Stock Exchange introduced a treasury bond future.

In Asia, futures traded on the Korea Exchange and Singapore Exchange recovered in 2005, after having declined in 2004. The Tokyo Stock Exchange and Sydney Futures Exchange kept on the momentum of 2004. Trading slowed down on the Hong Kong Exchange and the Tokyo Financial Exchange. Options volumes slowed down on the Singapore Exchange, while they progressed on the Tokyo Stock Exchange.

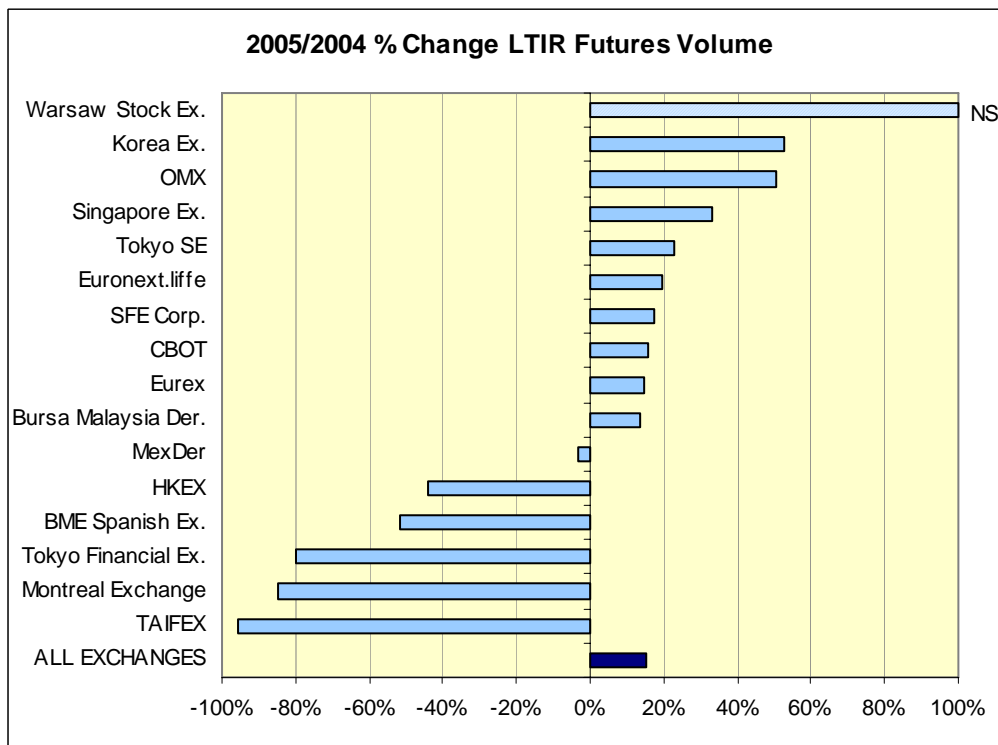


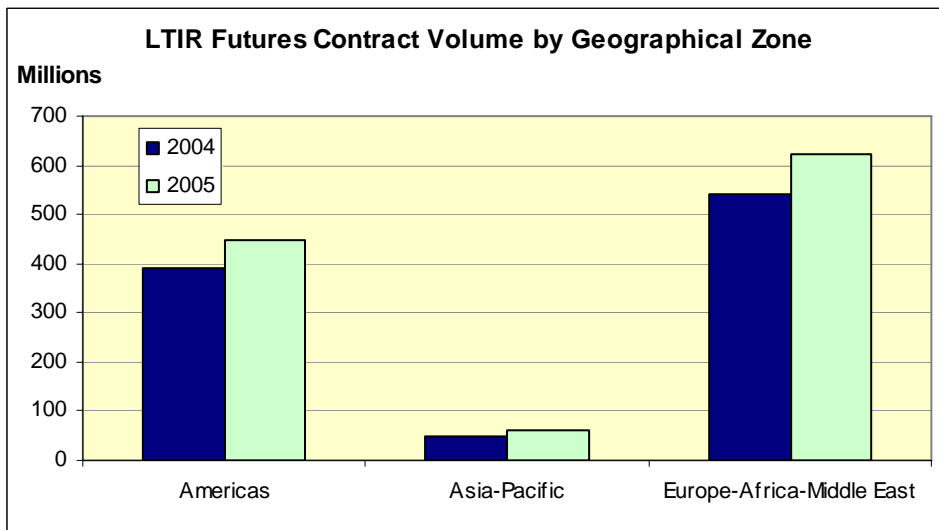
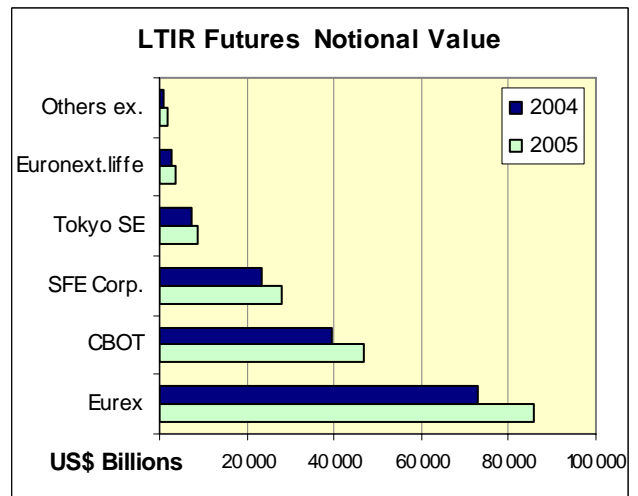
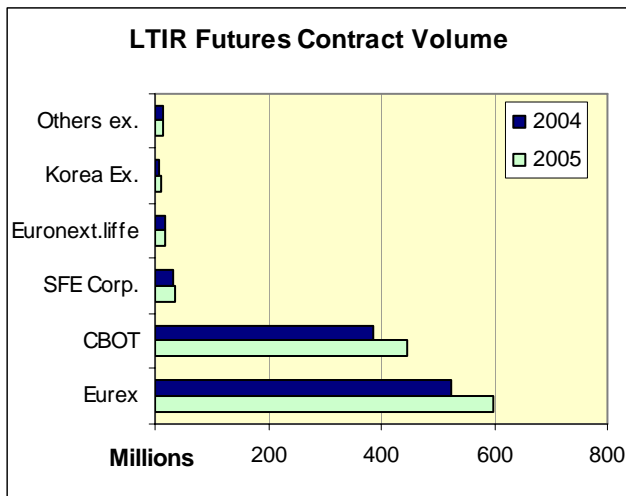
a) LTIR options





b) LTIR Futures

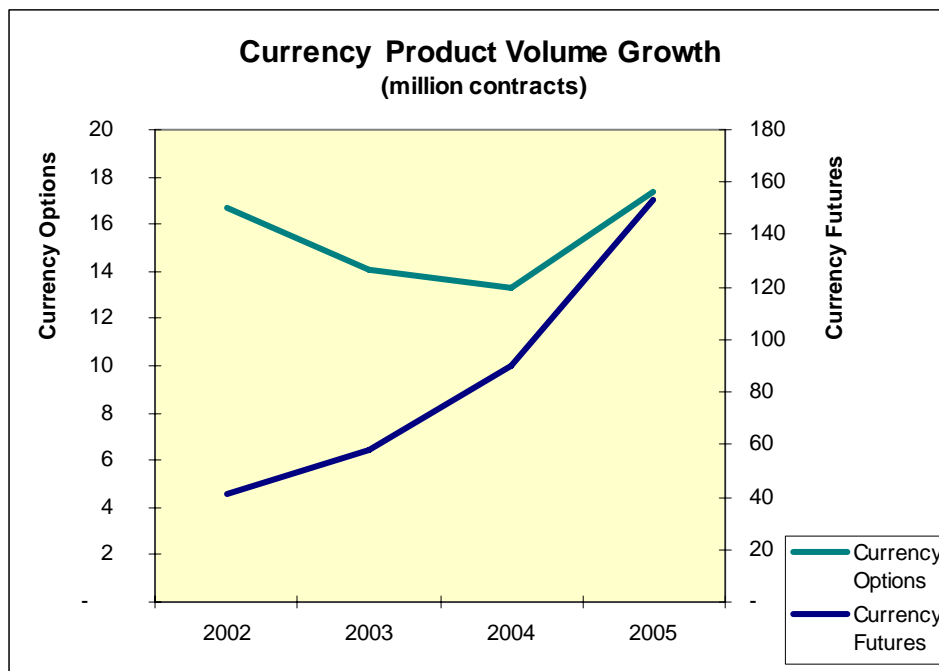






C - CURRENCY PRODUCTS

Currency futures and options are still a relatively small segment of organised derivatives markets. The 153 million futures and 17 million options traded in 2005 represented 2% of overall derivatives volumes. However, driven by CME, currency futures surged by 70% and options reversed the downward trend of the two previous years, with a growth rate of 15%.



As a general background note, one should remember that OTC trading heavily dominates the foreign exchange derivatives market, and that after a period of slowdown in this market between 1998 and 2001, a reversal was observed recently. The trend benefited organised futures markets even more than the OTC market.

In its “Triennial Central Bank Survey,” the BIS showed that the global daily turnover in OTC foreign exchange derivatives, which includes outright forwards and foreign exchange swaps, rose by 46% to USD1.15 trillion³ from April 2001 to April 2004. For the purpose of comparison, the total notional value of trades in exchange-traded currency futures and options amounted to USD7.2 trillion in 2004 and USD12 trillion in 2005 (i.e. an approximate daily average of USD2.9 billion and USD4.8 billion respectively).

³ For the purposes of this report, a million is 1 000 000. A billion is one thousand million (1 000 000 000). A trillion is one thousand billion (1 000 000 000 000).



More recent figures released by the Bank of England and the Federal Reserve showed an increase of the daily average market turnover in outright forwards and swaps, instruments which compare to exchange-traded futures. In October 2005, the daily average turnover of these products transacted in the US and in the UK was 40% higher than in October 2004. The notional value of turnover in exchange-traded futures increased by 68% in 2005 as compared to 2004. The average volume of OTC options was about the same in October 2005 as in October 2004, whereas the turnover in exchange-traded options increased 60%.

Average daily volume, in million of US Dollars			
	October 2004	April 2005	October 2005
Outright forwards			
London	40	50	66
New-York	49	57	73
Singapore			20
Total	89	107	159
Foreign exchange and currency swaps			
London	340	394	472
New-York	118	149	155
Singapore			81
Total	458	543	708
Foreign exchange options			
London	70	65	69
New-York	36	41	37
Singapore			11
Total	106	106	117

The growth of on-exchange trading of currency derivatives is due, among other things, to the increasing role of hedge funds on this market, and more generally to investors who consider currencies as a specific asset class and seek to generate alpha, some of them adding short-term strategies to the traditional long-term operations deals of the OTC market.

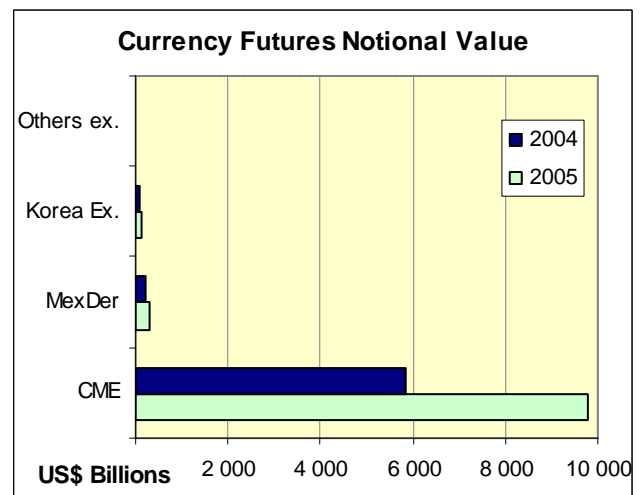
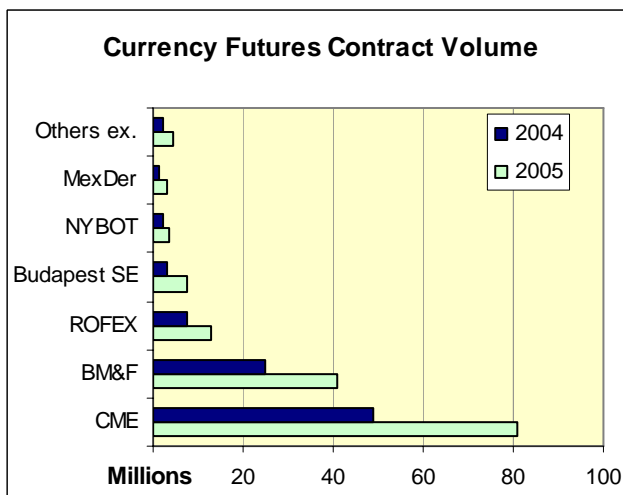
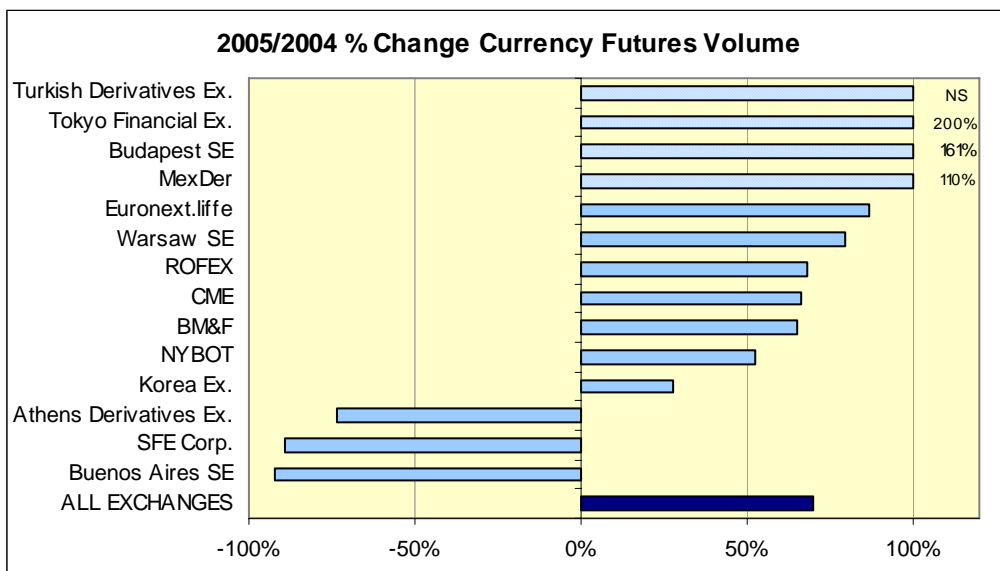
Taking into account the stable growth of currency derivatives, exchanges are listing more and more FX contracts: CME is considering the introduction of additional currencies (with a particular focus on Asia) to the 17 currencies already traded on its electronic platform. Eurex introduced FX contracts in the US in September 2005. In February 2006, NYBOT introduced futures on the FINEX Euro Currency Index, which tracks the performance of the euro against a basket of five currencies (the US dollar, the British pound, the Japanese yen, the Swiss franc and the Swedish krona.) In Canada, the Montreal exchange introduced trading of US dollar currency options. In the European time zone, the transfer of currency derivatives from the Istanbul Stock Exchange to TurkDEX was successful, with 1.6 million contracts traded in 2005.

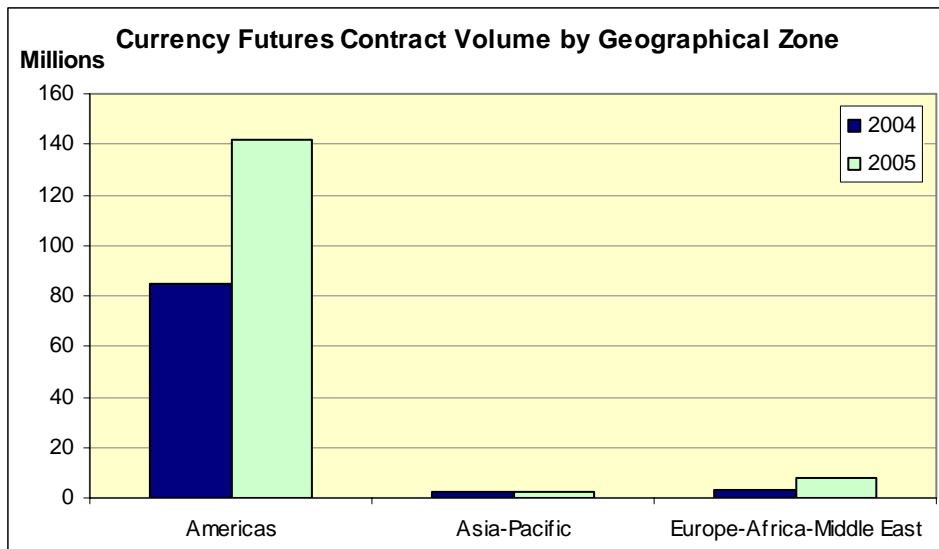


a) Currency Futures

153 million currency futures were traded in 2005, mainly in the Americas.

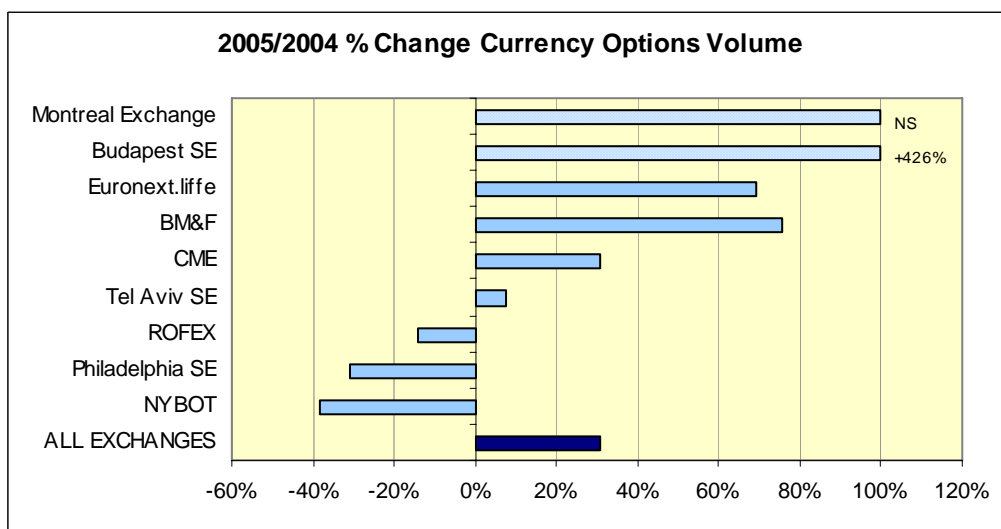
As in 2004, CME and BM&F concentrated most of the turnover on their trading venues. Both of them increased their turnover by more than 65%. ROFEX (Rosario Futures Exchange) rose by 68% and was in third position. Budapest was in the fourth position in terms of numbers of traded contracts, although its notional value of turnover is relatively low (USD10 billion, compared to the USD9,799 billion of CME). The Korea Exchange, Mexder and NYBOT also showed an increase in their activity, while activity on the Buenos Aires Stock Exchange and SFE fell.

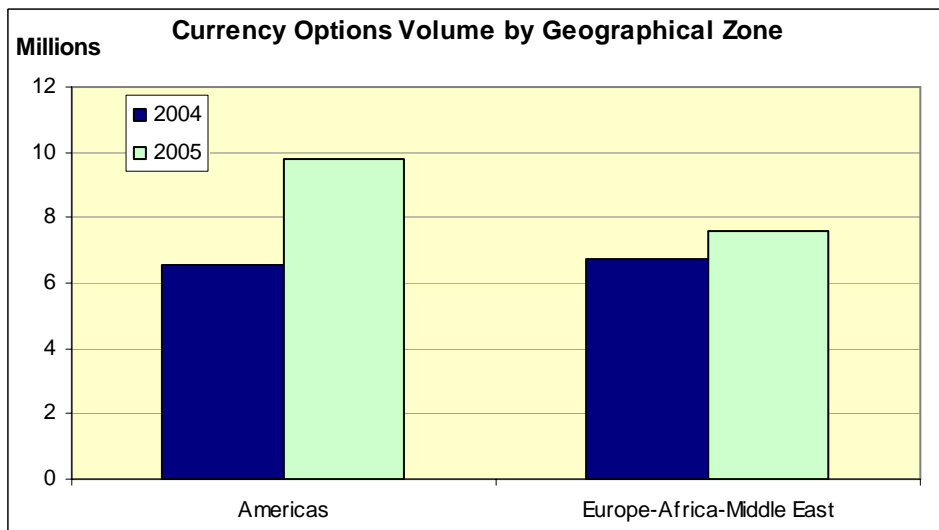
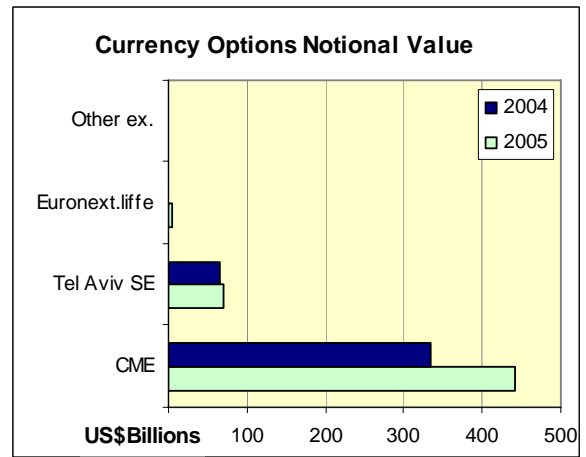
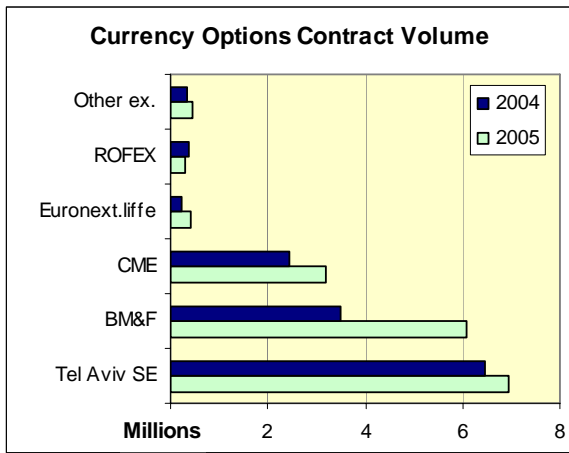




b) Currency Options

As in 2004, Tel Aviv Stock Exchange, BM&F and CME were the main exchanges for trading of currency options. But altogether, currency option trading remains of modest size, with 17 million contracts traded in 2005 as compared to the much higher figure for currency futures.

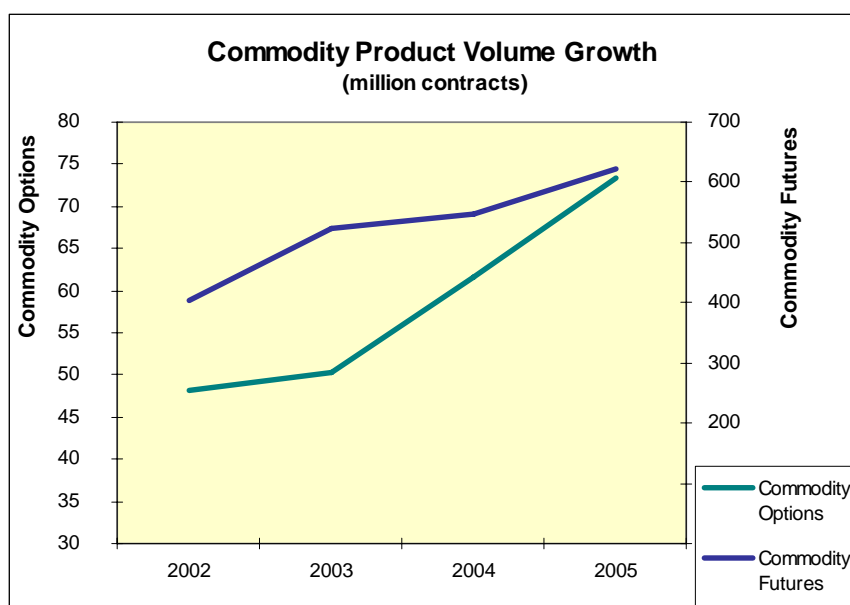






D - COMMODITY DERIVATIVES

623 million commodity futures were transacted in 2005, an increase of 14% over 2004. 73 million options were contracted, an increase of 19%.



Agricultural derivatives are spread across a greater number of exchanges than energy and metals derivatives.

	Energy	Metal	Agricultural Products
Americas			
BM&F		X	X
Chicago Board of Trade		X	X
Chicago Mercantile Exchange			X
New York Board of Trade			X
New York Mercantile Exchange	X	X	
Asia-Pacific			
Australian Stock Exchange			X
Bursa Malaysia Derivatives			X
Central Japan Commodity Exchange	X	X	X
Dalian Commodity Exchange			X
Korea Exchange			
Shanghai Futures Exchange	X	X	X
SFE Corp.	X		X
Tokyo Grain Exchange			X
Zhengzhou Commodity Exchange			X
Europe-Africa-Middle East			
Budapest Stock Exchange			X
Euronext.Liffe			X
ICE Futures	X		
JSE		X	X
London Metal Exchange		X	



➤ Energy derivatives

Energy derivatives trading is concentrated on two exchanges : ICE Futures and NYMEX. Both are legally based in the US, although ICE Futures main contracts have been regulated by the British FSA after the acquisition of the former International Petroleum Exchange. In 2005, 112 million energy futures and 27 million energy options were traded on NYMEX, and 42 million futures on ICE Futures. The overall energy derivatives turnover grew by 17% over 2004 on NYMEX, and it decreased by 22% on ICE Futures.

Both exchanges are expanding their operations on an international scale. Following the decision of IPE to close its outcry rings, in September 2005, NYMEX Europe launched an open outcry trading floor in London for Brent crude oil futures and options, and Northwest Europe gasoil futures. However, this tentative launch had a limited success, and NYMEX announced its intention to close its London outcry in 2006 and to move all contracts onto its electronic platform. In 2006, ICE Futures launched a West Texas Intermediate (WTI) crude oil contract accessible to US participants in competition with a similar contract of NYMEX. In March 2006, 1.6 million WTI contracts were traded on the ICE Futures electronic platform.

In May 2005, ICE Futures launched a contract on carbon emissions based on allowances issued under the European program designed to limit greenhouse gas emissions.

The Shanghai Futures Exchange is also an important market for Fuel Oil Futures in terms of number of contracts traded. However, the ranking of the Shanghai Exchange is less favourable in terms of notional traded value, because contract sizes are smaller than on the two other major energy derivatives markets.

The five most actively traded energy options in the world in 2005			
Name of the Contract	Millions of contracts		Exchange
	2005	2004	
Crude Oil	15	12	NYMEX
Natural Gas	9	8	NYMEX
Heating Oil	1	1	NYMEX
New York Harbour Gasoline	1	1	NYMEX
Crude Oil Calendar Spread	0,4	0,4	NYMEX

The five most actively traded energy futures in the world in 2005			
Name of the Contract	Millions of contracts		Exchange
	2005	2004	
Light, Sweet Crude Oil	60	53	NYMEX
Brent	30	25	ICE Futures
Fuel Oil	20	6	Shanghai Futures Exchange
Natural Gas	19	17	NYMEX
New York Harbour Gasoline	13	13	NYMEX



➤ Metal derivatives

Trading in metal futures and options is very concentrated. The LME is the main market for aluminium, zinc, copper and nickel. The NYMEX (COMEX) is the main marketplace for gold and silver, and is also a trading venue for copper futures. In Asia, copper and aluminium futures are traded on the Shanghai Futures Exchange.

In 2005, metal derivatives expanded, driven by fundamental tensions between supply and demand for metals, and by arbitrage and speculative flows of funds in a context of a weaker US dollar. The volumes of metal futures grew moderately at the LME, but options on aluminium and zinc more than doubled, and their growth remained very rapid in the first months of 2006. Analysts attributed this trend to a tension between stocks in rapid diminution and a minimal increase of the mining production on the one hand, and a continued strong demand, notably from China and India, on the other. Nevertheless, the volume of copper and aluminium futures fell in 2005 on the Shanghai Futures Exchange.

Trading in copper derivatives also increased in 2005. Options volumes increased 24% in 2005 at LME. Copper options are used to hedge positions against the volatility of copper prices, which can be affected by any unexpected falls in mining production, keeping in mind the background of very low stocks.

The five most actively traded metal options in the world in 2005			
Name of the Contract	Millions of contracts		Exchange
	2005	2004	
High Grade Primary Aluminium	5	2	LME
Gold	3	5	NYMEX
Copper – Grade A options	2	2	LME
Silver	1	1	NYMEX
Special High Grade Zinc	1	0,5	LME

The five most actively traded metal futures in the world in 2005			
Name of the Contract	Millions of contracts		Exchange
	2005	2004	
High Grade Primary Aluminium	30	29	LME
Copper	25	42	Shanghai Futures Exchange
Copper – Grade A	19	18	LME
Gold	16	15	NYMEX
Special High Grade Zinc	11	10	LME



➤ **Agricultural derivatives**

The main trend in recent years in agricultural derivatives trading is the breakthrough of Chinese markets. Starting in 1998 with 13 million contracts, the Dalian Commodity Exchange has been leading since 2004. In 2005, this exchange showed a turnover of 99 million contracts, mainly soybean futures. This trend is due to the increase in domestic demand, and the fact that a growing share of this demand is met by imports at prices integrated into the global market. Chinese companies processing soybeans, and many import-export firms, hedge their risk on derivatives markets. Furthermore, the Zhengzhou Commodity Exchange and the Shanghai Futures Exchange list cotton, wheat and rubber contracts. The development of derivatives exchanges is thus a key factor for the Chinese capitalist economy. In the Asia-Pacific region, the Tokyo Grain Exchange and the Central Japan Commodities Exchange are active in Japan. In Australia, SFE lists wool and cattle contracts, and the ASX several grain derivatives.

Although the Dalian Commodity Exchange leads in terms of number of contracts traded, the average size of contracts is smaller than on CBOT ; the Chicago exchange is thus bigger in terms of notional value of trading. In the US, NYBOT (main contract: sugar futures) and CME (main contracts: live cattle and lean hog futures) also list agricultural futures.

The most transacted agricultural contracts in the world are soybean and corn derivatives, mainly traded on the Dalian Commodity Exchange and CBOT. Wheat futures are mainly traded on the Zhengzhou Commodity Exchange and CBOT. The highest growth was observed on cotton futures, which quadrupled on the Zhengzhou Commodity Exchange and wheat futures (44% on Zhengzhou exchange, 27% on CBOT, with a rise of 64% in the open interest). A lot of speculative funds invested in the latter product, seeking to diversify inside the commodities derivatives asset class.

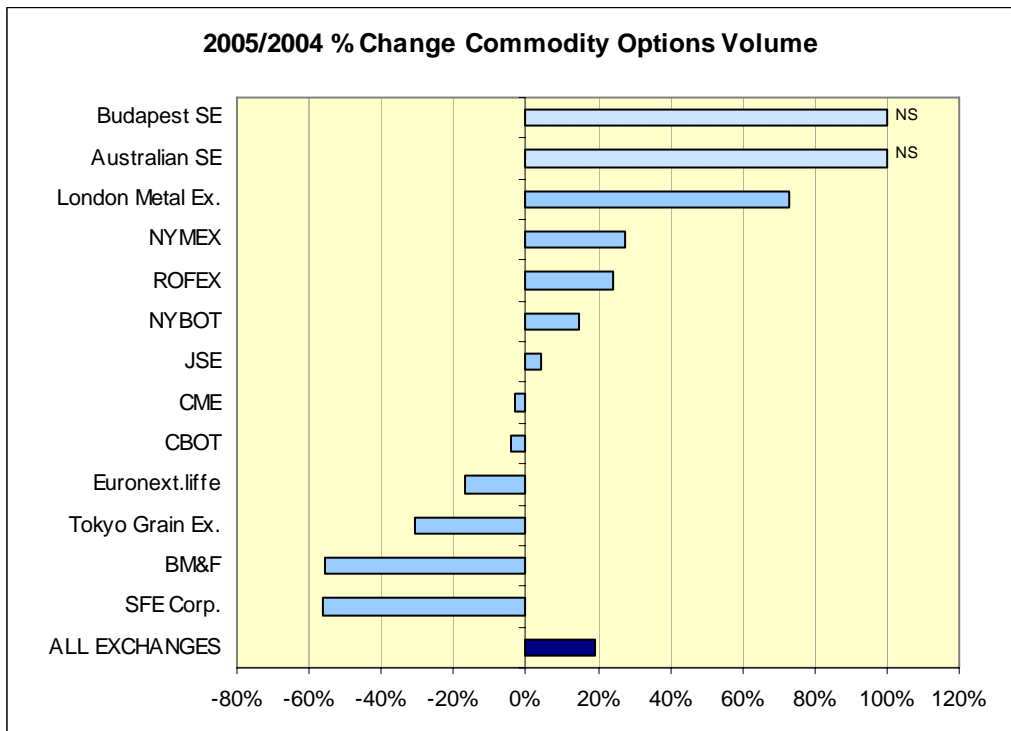
The Tokyo Grain Exchange, NYBOT and Euronext.liffe have leading positions for trading in coffee, and the latter two exchanges are also active in cocoa futures and options.

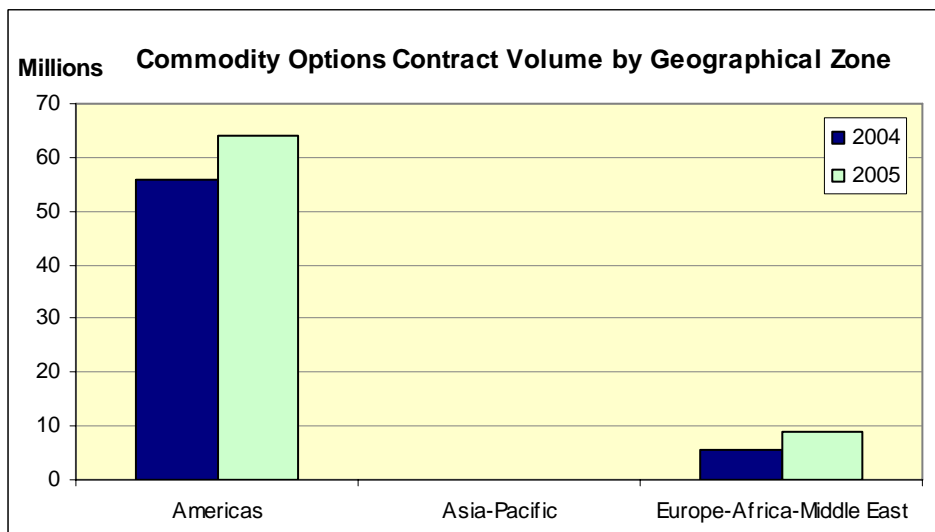
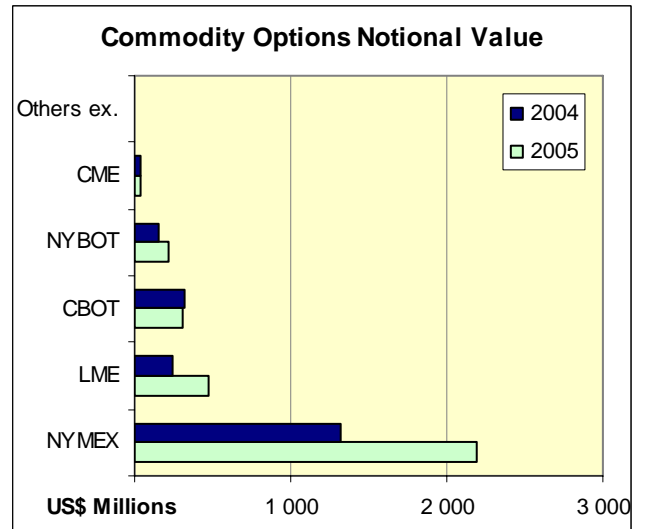
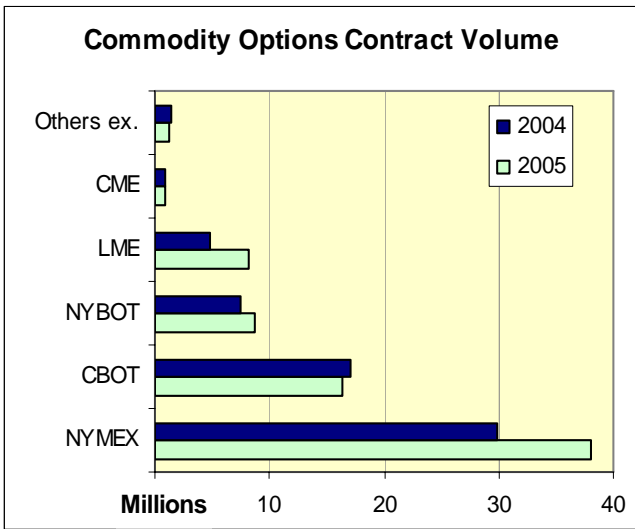
The five most actively traded agricultural options in the world in 2005			
Name of the Contract	Millions of contracts		Exchange
	2005	2004	
Soybeans	7	6	CBOT
Corn	6	8	CBOT
SO - Sugar 11	4	3	NYBOT
KO - Coffee "C"	2	2	NYBOT
Wheat	2	1	CBOT



The five most actively traded agricultural futures in the world in 2005			
Name of the Contract	Millions of Contracts traded		Exchange
	2005	2004	
No.1 soybeans	40	57	Dalian CE
Soybean meal	37	25	Dalian CE
Corn	28	24	CBOT
Corn	22	6	Dalian CE
Soybeans	20	19	CBOT

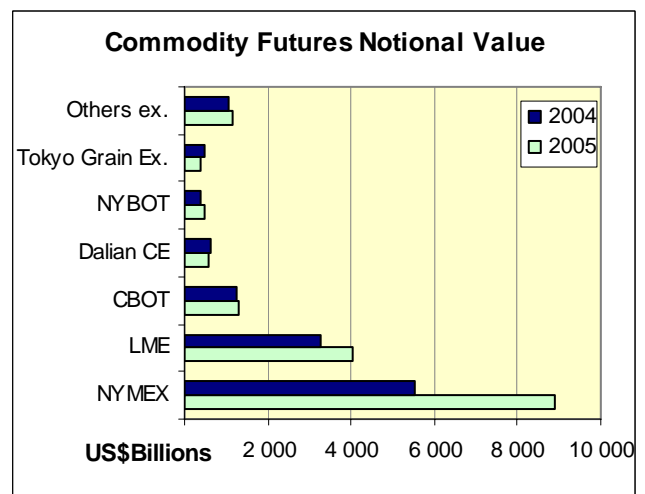
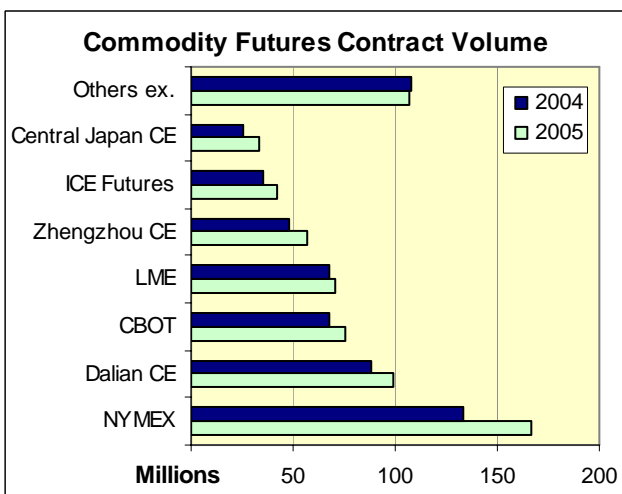
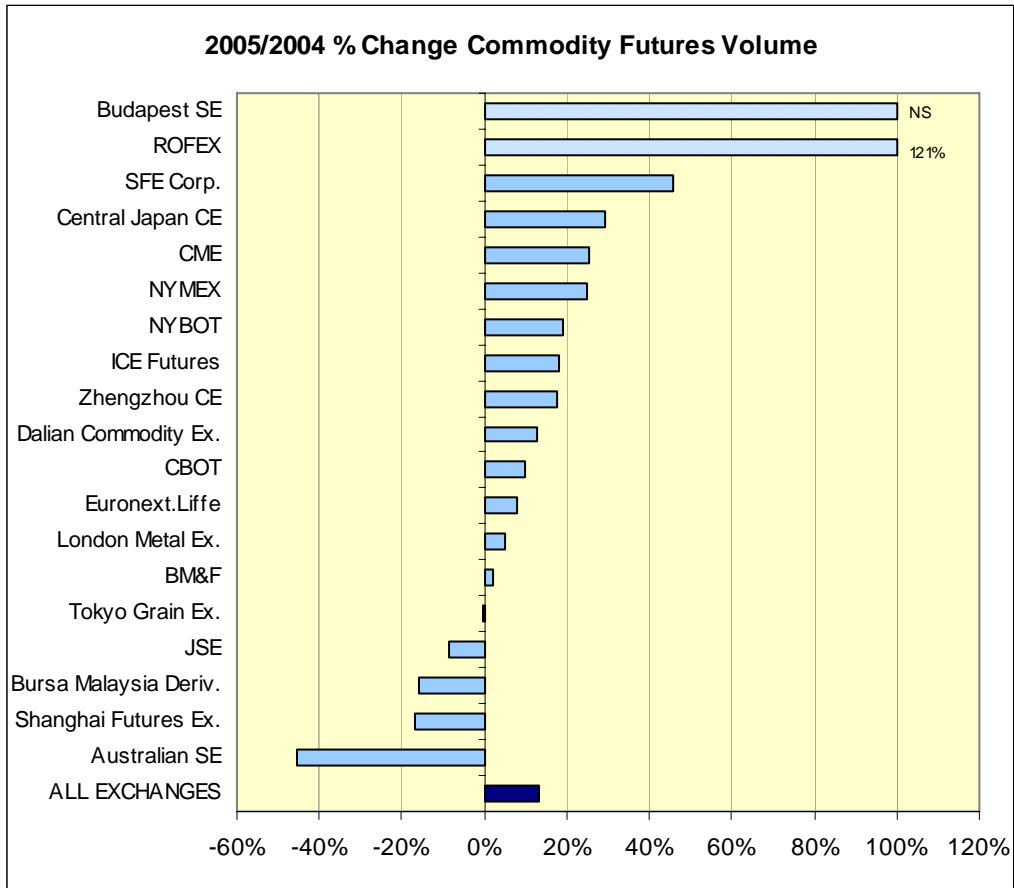
a) Commodity Options

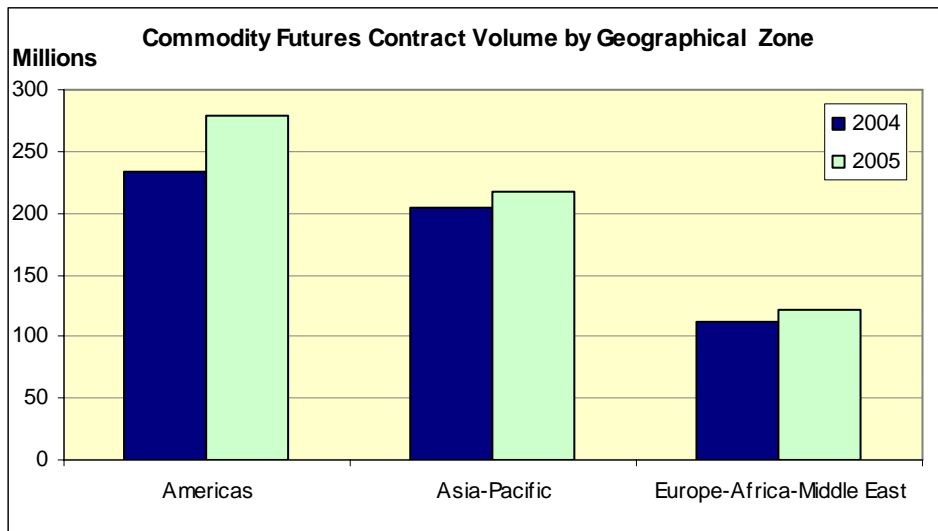






b) Commodity Futures







CONCLUDING REMARKS

Last year, the growth of derivatives volumes reached 12%, an acceleration when compared to 2004. The 9,858 million contracts traded in 2005 topped the historic record of 8,818 million contracts the year before.

One of the most striking findings of this survey is the surge of currency derivatives, up 65% over 2004. The growth of this segment has now outstripped similar development in the OTC market since 2001. It has been driven by hedge funds and more generally by investors who increasingly consider currencies as a specific asset class. CME and BM&F, the main markets active on this segment, added new products to their offers. Furthermore, new markets, such as the Budapest Stock Exchange and Eurex, emerged in this business. However the size of this market is still relatively small, and there is room for further growth in the future.

Equity products continue to be the most important segment for the number of traded contracts. They contributed 66% of the overall derivatives traded in 2005.

Index options were the products showing the smallest increase in 2005, “only” 6%. The number of KOSPI 200 options traded on the Korea Exchange stabilised in 2005, after tremendous growth from 2000 to 2003, and a relative fall in 2004. They still account for 79% of global trading in index options. In Europe, the Dow Jones Euro STOXX 50 index derivatives traded on Eurex, and reflecting the performance of the eurozone equity market, increased its global index market. In the US, index options traded on CBOE and index futures traded on CME maintained their dominance.

Stock options confirmed their steady growth, 15% in 2005. They account for 23% of overall derivatives trading in 2005. Competition for the order flow was more and more difficult in the US, where several exchanges may list the same option class. Options on QQQ ETFs (tracking the performance of NASDAQ stocks) are the second option class for the volume of stock option trading in the world. They are traded on ISE, AMEX and the Philadelphia Stock Exchange.

Stock futures confirmed their breakthrough. They showed the second highest rate of growth, after currency futures, with trading volume increasing by 63% in 2005. The most successful exchanges in that area were NSE India, JSE and BME Spanish Exchanges.

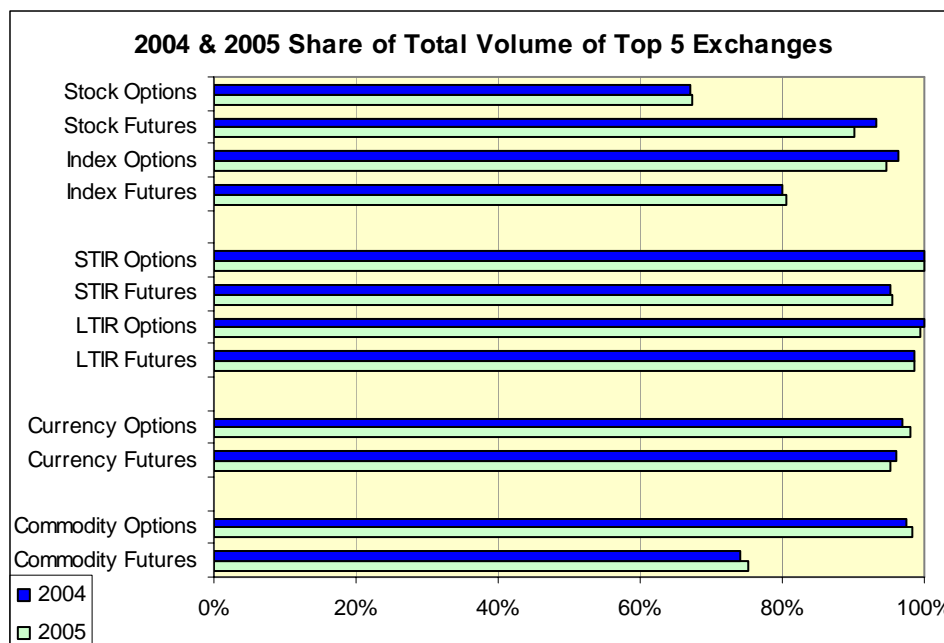
Interest rate products are the second most active segment of derivatives markets in terms of numbers of traded contracts, and the most active one in value, because the contracts are of much bigger size than those for equity products. In 2005, the rise of short-term interest rate of Eurodollar derivatives traded on CME was in line with the trend on the OTC market. Three-month sterling products traded on Euronext.liffe also rose considerably, but the short-term interest euro products stabilised, as was true for



the trend observed on OTC markets. Long-term interest rate products were traded as much or more in Europe (on Eurex) than in the US (on CBOT).

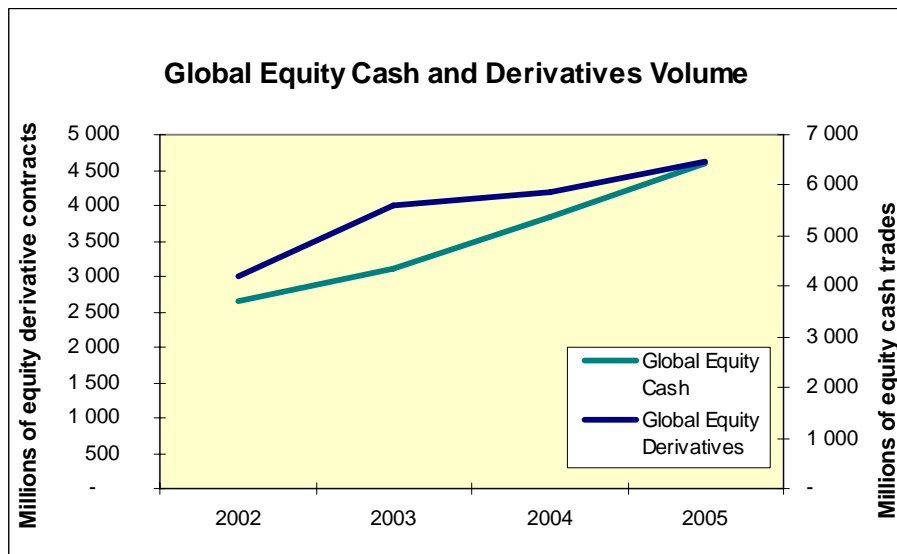
Commodity products trading volume rose by 14% in 2005. The high volatility of oil and non-ferrous metals led to intense activity on derivatives markets. As for agricultural products, soybean futures were the most actively traded product. Although CBOT maintained its leading position in terms of value, Chinese markets confirmed their breakthrough.

The concentration of derivatives business did not change very much in 2005. Interest rate and currency derivatives trading are the most concentrated, whereas equity and commodity products tend to be spread across more exchanges.



The steady development of derivatives markets in recent years raises the question of the sustainability of such high rates of growth in the future. The first statistics for the year 2006 confirm, or even show an acceleration, of the 2005 trends. What about medium-term perspectives?

To answer this question, one should first remember that not only derivatives markets, but also cash markets are more and more active. In 2005, cash equity markets trading grew even more rapidly, by 20%. Cash and derivatives markets activity expanded thanks to the general growth of the economy, some structural trends in the financial services industry, including algorithmic trading, and direct market access by institutions.

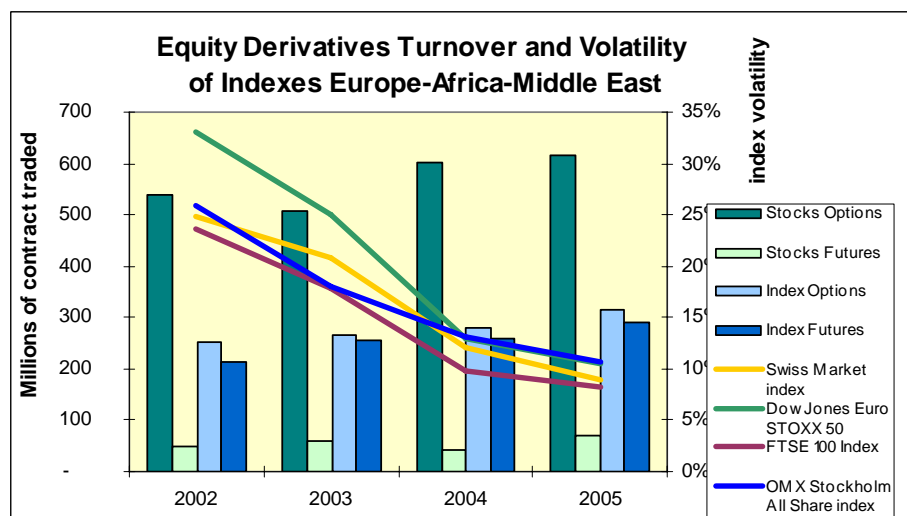
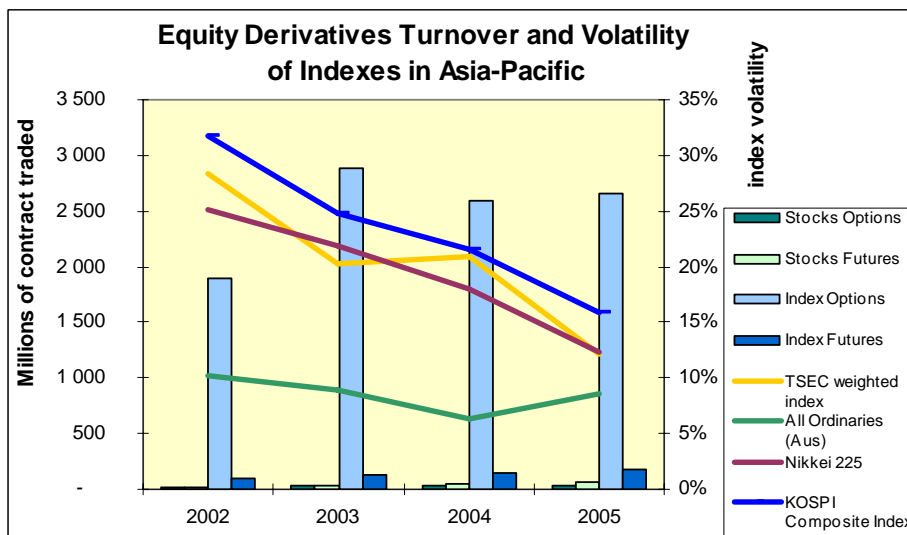
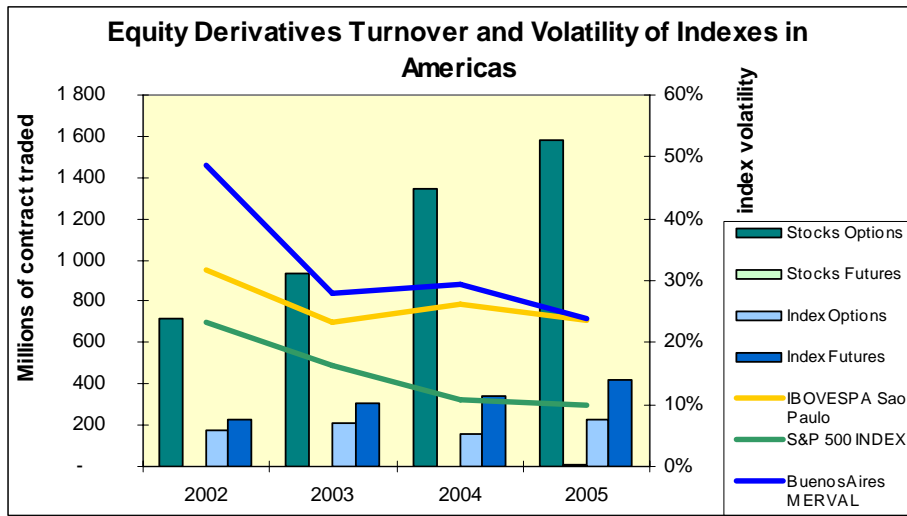


In order to meet the geographical extension of demand, in the author's view, the supply of derivatives trading services will increase in the future. Mentioning only projects known to be introduced in 2006, two creations should be pointed out, because they are significant for the extension of trading business to new geographical areas:

- NYMEX and Dubai Holding, a Dubai-based organisation that manages major economic development projects, created a 50-50 joint-venture : the Dubai Mercantile Exchange, scheduled to start operations in the fourth quarter of 2006. It will initially trade a sour crude oil futures contract. This market will be the first oil futures market in the Middle East. It will bridge the gap between trading hours in the Far East and London.
- The Thailand Futures Exchange (TFEX) was created as a subsidiary of the Stock Exchange of Thailand on May 2004. Trading started in April 2006 with futures on the SET50 index.

Finally, the original purpose of derivatives markets was always to enable participants to hedge the risks of their liabilities and assets, and therefore one should examine whether expected evolutions of risk will have an influence upon the development of the industry. Futures lock in the cost of an asset or a liability within a certain time period. Options enable participants to hedge the risk of loss. Volatility is broadly used as a key indicator of risk, and the price of an option reflects the implicit volatility of the underlying product.

Examining the case of equity derivatives, since 2002 the trend of volatility has clearly moved downwards on most equity markets. Average volatility figures for 2005 showed a continuity in this trend, although a slight upward reversal was perceptible at the end of the year. However, the equity derivatives markets have continuously developed in this period. This apparent contradiction would demonstrate that derivatives markets are still in an emerging or growing phase of their life-cycle. The number of players and the intensity of trading are still structurally increasing, even in a period of low volatility.





And if derivatives exchanges believed that their future will depend on the degree of risks and volatility, they can hedge such a risk on their own market, using volatility derivatives !

In March 2004, CBOE launched futures on the VIX index, representative of all OTM-options (strips of options). A VIX variance future was then launched in May 2004 on the all-electronic CBOE Futures Exchange (CFE), and a future on the Dow Jones Industrial Average Volatility in May 2005. Finally, CBOE launched options on the VIX index in February 2006.

In September 2005, Eurex launched a new contract on the volatility of the Dow Jones EURO STOXX 50 and the DAX indexes.

Are derivatives exchanges likely to hedge their risks on their own markets, following Stock Exchanges introducing their equity capital on their own listing?



WORLD FEDERATION OF EXCHANGES

Tel : (33.1) 58 62 54 00

Fax : (33.1) 58 62 50 48

E-mail : secretariat@world-exchanges.org