



## OVERVIEW OF THE WORLD'S COMMODITY EXCHANGES, 2001

*By the UNCTAD Secretariat \**

### INTRODUCTION

Most writers consider that modern futures exchanges date back to the trading of rice futures in the 17th century in Osaka, Japan, although the principles that underpin commodity futures trading and the function of commodity markets are still older. Forward contracts (for grains) date from at least from Babylonian times, and the first recorded account of derivative contracts can be traced to the ancient Greek philosopher Thales of Miletus in Greece, who, during the winter, negotiated what were essentially call options on oil presses for the spring olive harvest. The Spanish dramatist Lope de Vega reported that in the 17th century options and futures were traded on the Amsterdam Bourse soon after it was opened.

Futures trading is a natural corollary to the problems associated with maintaining a year-round supply of seasonal products such as agricultural crops – it provides solutions for these problems, as well as new opportunities. Exchanging traded futures and options provide several economic benefits, including the ability to shift or otherwise manage the price risk of market or tangible positions. With the liberalization of agricultural trade and the withdrawal of government support to agricultural producers outside of the OECD there is in many countries a new need for price discovery and even physical trading mechanisms, a need that can often be met by commodity exchanges.

Hence, recent years have seen the rapid creation of new commodity exchanges and the continuing expansion of existing ones. At present, there are major commodity futures exchanges in over 20 countries, including the United States, the United Kingdom, Germany, France, Japan, the Republic of Korea, Brazil, Australia and Singapore. A large number of new exchanges were created during the past decade in developing countries; not all of them have progressed to the level of futures trading, and many have rapidly disappeared again.

This brief report gives an overview of commodity exchanges throughout the world. The description with respect to developed countries focuses on futures exchanges, while the discussion of developing countries includes exchanges that focus on forward trading and which may evolve into arranging futures trade in the years to come.

The focus is on commodity exchanges in the traditional sense – that is, exchanges trading agricultural commodities, metals or energy products, as opposed to financial products. These exchanges are, however, described in the context of global futures trade, including financial contracts. It should be noted that from their introduction in the first half of the 1970s, financial futures quickly outgrew the traditional commodity futures, and this pattern of rapid growth of financial futures can be seen both in established exchanges in the West and in new exchanges in other countries. For example, the world's largest futures exchange is now the Korea Stock Exchange, which launched its first derivatives contract (a stock index futures in 1996. It traded 855 million derivatives contracts in 2001, more than a quarter of the world's total (see Annex I). This can be compared to the volume of the world's largest commodity exchange, which in that year traded slightly over 100 million contracts (3.2 % of the world's total) – it was followed by China's Dalian Commodity Exchange which traded over 91 million contracts (see table 1 below). Overall, commodity futures and options now account for less than 15% of total futures and options volume, and this percentage is likely to continue falling in the years to come, even if trade in commodity futures and options is likely to continue its steady growth.

#### **Table 1: The world's major commodity futures exchanges,**

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**ranked in order of total number of contracts traded in 2001  
(in '000 of contracts)**

	Energy contracts		Metal contracts		Agricultural contracts	
	2000	2001	2000	2001	2000	2001
1. New York Mercantile Exchange						
- futures	73,090	72,549	12,956	12,256		
- options	15,253	14,013	2,735	2,521		
2. Dalian Commodity Exchange					35,140	91,330
3. Chicago Board of Trade						
- futures			19	15	48,480	49,021
- options					11,823	11,779
4. London Metals Exchange						
- futures			61,413	56,224		
- options			5,032	3,188		
5. Tokyo Commodity Exchange	21,111	24,654	23,528	27,550	6,212	3,334
6. Central Japan Commodity Exchange (futures)	19,763	26,739			1,566	1,108
7. International Petroleum Exchange	25,000	26,400				
8. Tokyo Grain Exchange						
- futures					20,770	22,617
- options					290	100
9. New York Board of Trade						
- futures					13,613	12,309
- options					4,697	3,750
10. Zhengzhou Commodity Exchange					11,390	12,060
11. Shanghai Futures Exchange			625	11,074	241	146
12. Chicago Mercantile Exchange						
- futures					6,979	7,428
- options					978	1,107
13. London International Financial Futures Exchange (Euronext)						
- futures					4,124	4,076
- options					264	260
14. Kansas City Board of Trade						
- futures					2,428	2,357
- options					218	243
15. Minneapolis Grain Exchange						
- futures					958	969
- options					43	30

*Source:* data collected by the UNCTAD secretariat from information provided by individual exchanges and regulatory authorities. Only exchanges trading more than 1 million contracts in 2000 or 2001 are included. To mention just a few of the other active commodity futures exchanges: BM&F (668,000 agricultural futures contracts in 2000, and 749,000 in 2001; and resp. 120,000 and 156,000 gold options); SAFEX/JCE (359,000 agricultural futures in 2000 plus over 60,000 options, and a volume close to 1 million contracts, of which a third options, in 2001); Budapest Commodity Exchange (209,000 agricultural futures in 2000, down to 35,000 in 2001); Warenterminborse Hannover (35,183 agricultural futures in 2000, 53,692 in 2001); and OM's Pulpex exchange, trading less than 10,000 paper pulp contracts in 2000 and 2001. This table does not include turnover on the new internet-based commodity exchanges which also offer futures and options, such as the InterContinental Exchange, CheMatch or NordPool.



## I. EXCHANGES IN THE AMERICAS

From 2000 to 2001, the U.S. increased its futures trading volume by 35%. This may seem like a remarkable performance, but is in effect much below the worldwide growth of futures and options trade, which was close to 57%. The U.S. share in world futures trading thus continues falling – while until 1992, the U.S. alone accounted for more than half of world futures trade, in 2001 its share had fallen to just over a quarter (Chart No. 1). In 2001, non-U.S. exchanges were responsible for 72% of all futures and options trade, due primarily to the huge growth in European interest rate trading and Korean stock index options.

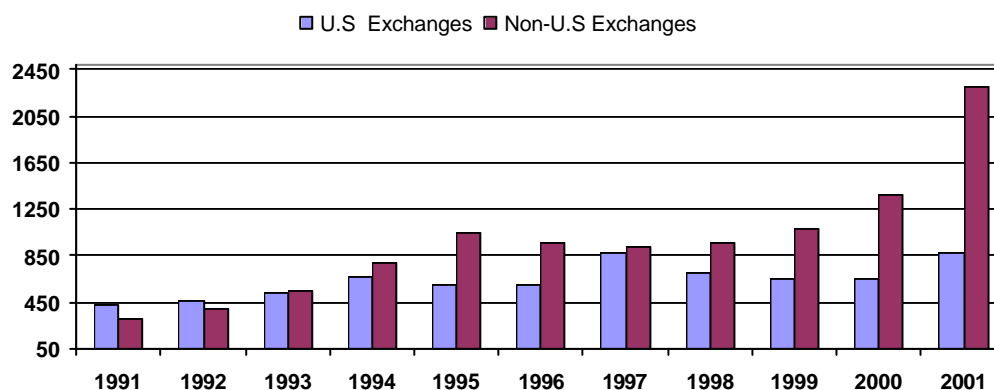
Historically, trading in futures began in the mid-19th century with corn contracts at the Chicago Exchange and the cotton exchange in New York. While exchanges have continued to deal in commodities, since the early 1980s, trade in financial futures has become increasingly important for most of them. The U.S. hosts 13 major futures and options exchanges, with Chicago Board of Trade (CBOT) being the biggest. Founded in 1848, the CBOT was once the largest futures and options exchange in the world. But by 2001 it had fallen to being the 4th largest futures exchange, after the Korean Stock Exchange, Eurex and CME, having traded 260 million contracts in 2001 (8.1% of total world volume). The Chicago Mercantile Exchange (CME), founded in 1874, was the world's 3rd largest, with 412 million contracts traded in 2001. In September 2001, it traded 40 million contracts that month, the most ever traded in a single month at that exchange.

The New York Mercantile Exchange (NYMEX) traded 103 million contracts in 2001 and accounted for more than 3% of world futures volume (and almost a quarter of world commodity futures volume). Contrary to CBOT and CME, NYMEX is still a pure commodity exchange, and is the largest commodity exchange in the world. Although the Dalian Commodity Exchange saw a huge growth in 2001 and came close to NYMEX's volume, the Chinese exchange has since run out of steam; in the first half of 2002, it traded "only" 33 million contracts. So NYMEX is not likely to lose its predominant position soon.

The United States has several other exchanges that are among the world's major commodity exchanges. The New York Board of Trade (NYBOT) is the world's eighth largest commodity exchange, and sets worldwide reference prices for several key commodities (in particular, cocoa, coffee, cotton and sugar). The Kansas City Board of Trade and Minneapolis Grain Exchange serve mostly the domestic market (although the latter is trying to penetrate international markets with, for example, a shrimp futures contract); the first traded 2.6 million contracts in 2001, the latter close to 1 million contracts.

While the exchanges in **Canada** are old, they are of fairly minor importance. The largest is the Bourse de Montreal, founded 1874 and currently ranked 27th in the world, with only 0.2% of world market trade. The country's agricultural futures exchange, the Winnipeg Futures Exchange, is ranked 35th in the world.

**Chart No. 1**  
**Annual Global Futures and Options Volumes,**  
**U.S. and non-U.S. exchanges 1997-2001**  
**(millions of contracts)**



Latin America's largest and most important commodity exchange is the Bolsa de Mercadorias & Futuros,



(BM&F), in **Brazil**. It has steadily held leading positions in world ranking. Although created only in 1985, it was the 8th largest by 2001, with 98 million contracts traded. This actually was a fall compared to the previous year, as in 1997 BM&F was the 4th largest exchange worldwide, with a trade volume of 122 million contracts. The Brazilian devaluation severely impacted the trading volumes. Still, BM&F's decision to merge with Globex - the global trading alliance between the CME, the Singapore International Monetary Exchange and the Paris Bourse - has helped to reignite interest in the country's currency futures. Trading in agricultural contracts can hardly be compared to the main commodity futures markets in New York and Chicago, although Brazil's coffee futures currently accounts for over 100 million US\$ worth of trade per month.

There are many other commodity exchanges operating in Brazil, spread throughout the country. They trade largely in commodities for immediate or forward delivery, but through an electronic network (which links most of the country's exchanges) they also make it possible to trade in futures contracts.

**Argentina** has a long tradition in futures markets, but their activities have from time to time been circumscribed by detailed government regulation, which has limited the use of exchange services. The national exchange network consists of 11 markets, which trade mostly in agricultural commodities, including one of the world's oldest commodity futures exchanges, the Bolsa de Cereales dating back to 1854. Its futures market, Mercado a Termino de Buenos Aires, founded in 1909, ranks as the world's 51st largest exchange in 2001.

Although **Mexico** is Latin America's second biggest economy, it has only recently introduced a futures exchange. This exchange only trades financial futures, not commodities.

The exchanges in **El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Ecuador, Peru and Bolivia** were created mostly in response to the liberalisation of domestic trade as a mechanism for the organisation of domestic agricultural trade flows. The oldest of these, in Colombia, dates from 1973, and the Ecuador exchange dates from 1986, while all the others have been established since 1992. Most of the products traded are agricultural (with some processed products traded in a few countries), but the Government of Colombia is examining the possibility of introducing a commodity exchange for emeralds. The trading possibilities offered by the exchanges vary widely. Most provide a forum for trade in physical commodities, but some also enable forward trading. In Colombia, the exchange also trades the "credit" part of warehouse receipts and has arranged livestock securitization to improve rural financing; and has been exploring the possibility to act as a "gateway" into international exchanges.

A major private sector group in **Chile** proposed the creation of a commodity futures exchange in the late 1980s. The proposed exchange would trade in domestic food grains and fishmeal, but this has not gone beyond the planning stage. In **Venezuela**, the Agricultural Exchange of Venezuela was created in 1998 and deals mostly in spot and forward contracts in grain.

## II. EXCHANGES IN EUROPE

**Europe** is home to the world's 2nd largest exchange, Eurex, which resulted from the merger of the German DTB (Deutsche Terminbörse) and the Swiss Exchange Soffex in the autumn of 1998. In 2001 it accounted for 17% of world volume, trading 542 million contracts. Eurex was directly introduced electronically (that is, unlike the traditional exchanges, there was no open-outcry floor; rather, the buying and selling of orders was executed directly through a computer system). Most of the other exchanges (the Paris Bourse/MATIF, LIFFE, IPE and the LME) have moved from open-outcry to electronic trading systems. The events of September 11th may possibly accelerate a move toward electronic trading since trading floors affected by the attacks proved difficult to reopen, while the Internet remained functional throughout the crisis.

Euronext, created in 1998, is a pan-European "one company, three centres" structure merger between Amsterdam Exchanges (AEX), Brussels Exchanges (BXS) and Paris Bourse (MATIF), which created the first totally integrated cross-border single currency derivatives market. In late 2001, the London International Futures Exchange (LIFFE) was also integrated into Euronext, and in February 2002, Portugal's Bolsa de



Valores de Lisboa e Porto Exchange merged with Euronext to become Euronext Lisbon. With these latest mergers, Euronext may well overtake Eurex as Europe's largest (and the world's second largest) futures exchange. Of the different parts of Euronext, LIFFE is a major commodity futures exchange in its own right, trading a range of agricultural commodities both for the world market and the EU market; it ranked as the world's 13<sup>th</sup> largest commodity futures exchange in 2001. Paris Bourse/MATIF also actively trades a number of commodities.

**The United Kingdom** hosts three major futures and options exchanges. The biggest is the LIFFE, now part of Euronext. LIFFE has not been very successful in recent years – its 2001 volumes were similar to those it had reached in 1997, because of the “capture” by Eurex of a significant volume of trading in Bund futures from LIFFE. The London Metal Exchange (LME), founded in 1877, specialises in non-ferrous metals, and was the 10th largest futures exchange, accounting for 1.8% of global turnover; it also vies with the Chicago Board of Trade for the position of third largest commodity exchange. The third largest British exchange, the International Petroleum Exchange (IPE), was formed in response to changes in oil marketing and pricing practices in the late 1970s. It ranked 17th worldwide and traded 26 million contracts in 2001. In July 2001, IPE was the first “bricks and mortar” exchange to be taken over by a new electronic market, the Intercontinental Exchange (ICE, with its headquarters in Atlanta, USA – although this does not mean much for an Internet-based market). In early 2002, ICE traded 4,000 contracts a day, with a nominal value of 2.5 billion US\$.

In **Spain**, the MEFF Rent Variable Exchange had the 3rd largest gain, 185% in trading volumes, amongst futures exchanges in 2001. This was due to the introduction of single stock futures, a market where MEFF traded triple the amount than its closest competitor in this area- LIFFE. MEFF is a member of the the Euro GLOBEX agreement which allows members of Euronext Paris in France, MEFF in Spain and MIF in Italy to trade each others' contracts from their own workstations across interconnected electronic trading platforms. An exchange in Valencia, FC&M, introduced a orange futures contract in 1996, but volume in this contract never picked up; the FC&M exchange is now looking at electricity futures. The introduction of olive oil futures was also considered by an industry group in the late 1990s.

More or less in a virtual world, but with its headquarters in **Sweden**, is the OM Group. It provides financial derivatives, with a volume large enough to boost it to a place as the world's 15th largest futures exchange (had its unsuccessful bid for LIFFE succeeded it would have been even further up the rankings). Alongside its financial futures, the OM Group also runs the Pulpex exchange, which offers paper pulp futures.

In **Germany**, the Hannover Terminbörse, created in the late 1990s, offers a range of agricultural futures contracts for the EU market. Its volume is yet to take off.

In **Slovenia**, a new electronic exchange, the Exchange of Ljubljana started trading in 1995. It offers a range of currency futures contracts and two grain futures contracts. Trade has been quite limited so far. In **Hungary**, the Budapest Commodity Exchange, created in 1989, which trades in financial futures as well as grains and livestock, has been quite successful and ranked in 2001 as the world's 37th commodity exchange. Its commodity futures volume has been falling in recent years, not just in relation to its financial futures but also in absolute terms. Other commodity exchanges, not trading futures contracts, have been created since 1990 in **Romania, Bulgaria, Yugoslavia, Lithuania** and **Estonia**. Most of them focus on organising trade for immediate physical delivery. However, in some markets, futures contracts are traded on foreign currencies (Euro, dollars, etc) as in the **Romania's** Sibiu Monetary Financial and Commodities Exchange, founded in 1997, and the Romanian Commodities Exchange, opened in 1992, which also trades in grains and oil by-products. Yugoslavia's agricultural exchange expects to introduce wheat options (on physical wheat, not on futures) in 2003.

In the **Czech Republic**, there have been discussions since 1994 to create a commodity exchange to trade precious and non-precious metals, fuels, minerals, ores, timber, paper products and construction materials--a range of products quite different from those normally introduced in countries with liberalised economies--(where exchanges tend to focus on agricultural commodities). However no such exchange has been created as



yet. In **Poland**, the Warsaw Commodity Exchange, founded in 1995, deals in futures and options in agricultural products and currency. It is part of the Polish Commodity Exchange network, composed of 18 exchanges spread throughout the country.

At the beginning of the 20<sup>th</sup> century, there were over a hundred commodity exchanges in **Russia**, which of course all disappeared rapidly after the Russian Revolution. The early 1990s saw an outburst of new exchanges - according to one estimate, more than 700 exchanges were created between 1990 and 1993. Most were simply cash markets, and functioned as brokerage houses without any reliable clearing systems. The first futures contract, on US dollars was launched by the Moscow Commodity Exchange (MCE) in late 1992, and became rather successful in the period 1993 – 1996. Now, the fastest growing market is the new screen-based futures and options exchange FORTS – created in August 2001 after the merger of the derivatives division of the St. Petersburg stock exchange and the Moscow-based electronic stock market RTS (Russian Trading System). In **Ukraine**, there are a few dozen agricultural exchanges, which despite support from the US aid agency have not yet developed much beyond the cash trading stage; the Ukrainian Interbank Currency Exchange trades gaspetrol and oil and gas conditiates, as well as gold (but no currency) – it plans to introduce electricity futures. In **Kazakhstan**, the Kazakhstan Stock Exchange deals in a small number of futures contracts on foreign currencies. Some work has been done in **Kyrgyzstan** on the possibilities for introduction of a commodity exchange for locally-traded agricultural commodities.

Another country where exchanges have existed for a long time is **Turkey**. Around 20 of them engage in active commodity trade (others are called exchanges, but in fact, only act as centres for the registration of commodity trade transactions). The oldest, in Izmir, traces its origin back to 1891. These exchanges act as physical trading centres, to which ranges of commodities are brought for inspection and immediate sale, and in which forward contracts are agreed on. Some of these exchanges have been appraising the possibility of introducing more sophisticated forms of trade, based on warehouse receipts and even futures contracts (after years of efforts, in early 2002, the Izmir Commodity Exchange was finally granted regulatory approval to introduce futures contracts – cotton may be a first candidate). In 1997 the Istanbul Futures and Options Exchange was launched to meet the demand for future gold products in Turkey. It is Turkey's first derivatives market.

### III. EXCHANGES IN ASIA-PACIFIC

Last year saw the remarkable growth of Asia, with the Korean Stock Exchange becoming the leading exchange in contract volume worldwide, and Asia eclipsed Western Europe and the U.S. with a 160% increase in traded contracts to become the number one trading region in terms of futures and options volume.

The **Korean** Stock Exchange, in 2001, became the largest futures and options market worldwide, with an overall share of 27% of the global trading volume with a 300% increase in volume from 2000. Since 1998, it has achieved a 1602% increase in its traded volumes. The increase in derivatives trading in 2001 is largely attributable to the high volatility of the cash market throughout the year and the increased presence of foreign investors. The remarkable growth of the Exchange stems from the KOSPI -200 index options and futures contracts, launched in 1996, which quadrupled in volume since last year. The smaller Korea Futures Exchange (KOFEX), founded in 1999, ranks as the world's 23rd largest exchange in 2001, with an increase of 285% in trading volume since last year. KSE does not trade commodity futures, and on KOFEX, gold futures trade is relatively unimportant compared to trade in financial futures.

Futures exchanges in **Japan** have gone through a process of consolidation since 1993, and only 10 remained in 1999 (down from 17 just five years earlier). Most of the trade takes place in metals and agricultural produce. The biggest is The Tokyo Commodity Exchange (TOCOM), created in November 1984, through the consolidation of three existing exchanges: the Tokyo Textile Commodities Exchange, the Tokyo Rubber Exchange, and the Tokyo Gold Exchange. In the 24-hour global trading environment, TOCOM has emerged as an influential exchange on par with exchanges in New York, Chicago and London, dealing in gold, silver, and platinum futures as well as several other precious metals. TOCOM traded 56 million contracts in 2001, ranked 11th in the world and accounted for 1.5% of the overall world volume. The second largest futures and



options exchange in Japan is the Central Japan Commodity Exchange formed in 1996 by the amalgamation of three other exchanges. It traded 28 million contracts in 2001, and was the world's 16th largest exchange, having increased its trading volume in 2001 by 30 %.

Like Russia, **China** had dozens of commodity exchanges at the beginning of the 20<sup>th</sup> century. These mostly disappeared during the 1930s, and after a long wait, the first commodity exchange was re-established in 1990.

At least forty had appeared by 1993, as China accelerated the transformation from a centrally planned to a market-oriented economy. The main commodities traded are agricultural staples such as wheat, corn and in particular soybeans, which have long been considered strategically important by the Chinese government, both for economic development and political stability. In late 1994, a drastic decision was taken: more than half of China's exchanges were closed down or reverted to being wholesale markets, while only 15 restructured exchanges receiving formal government approval. In 1995, as a result of scandal involving the trading of bond futures contracts at the Shanghai Stock Exchange, which threatened the stability of the entire financial system, the Chinese government scaled back trading in commodities futures. At the beginning of 1999, the China Securities Regulatory Committee began a nationwide consolidation process, three commodity exchanges emerged; the Dalian Commodity Exchange (DCE), the Zhengzhou Commodity Exchange and the Shanghai futures Exchange, formed in 1999 after the merger of three exchanges: Shanghai Metal, Commodity, Cereals & Oils Exchanges. These three exchanges have now moved to the top ranks of commodity futures exchanges – ranking, respectively, in 2<sup>nd</sup>, 10<sup>th</sup> and 11<sup>th</sup> place in 2001. The entry of China into the World Trade Organization (WTO) in 2002 has the potential, in years to come, to revitalize China's futures markets and the Chinese economy (in particular, note that financial futures are currently not traded in China). In **Taiwan**, province of China the Taiwan Futures Exchange has increased its trading volume by 1465% since its creation in 1998, helping it become the world's 32nd largest exchange; however, it only trades financial futures (although there has been talk of introducing agricultural futures).

In **Thailand**, a project to start a commodity futures exchange in rice, rubber and a number of other commodities has been the subject of debate as of the early 1980s, but little progress has been made so far. Private-sector groups in **Pakistan** have called for the re-establishment of a cotton exchange, which last operated in Karachi in the 1930s. In **Sri Lanka**, the Government has been looking at the possibilities of an exchange for both domestically traded and export commodities, including tea, and is now actively promoting the emergence of forward trading of a range of vegetables.

Commodity markets have a long history in **India**. The first organised futures market, for various types of cotton, appeared in 1921. In the 1940s, trading in forward and futures contracts as well as options was either outlawed or rendered impossible through price controls. This situation remained until 1952, when the Government passed the Forward Contracts Regulation Act, which to this date controls all transferable forward contracts and futures. During the 1960s, the Indian Government either banned or suspended futures trading in several commodities. The Government policy slackened in the late 1970s and recommendations to revive futures trading in a wide range of commodities were made. With the full convertibility of the rupee, the ongoing process of economic liberalisation and the Indian economy's opening to the world market, the role of futures markets in India is being strengthened. Many of the contracts traded are unique in the world. Although some are clearly domestic-oriented, others (such as raw jute, pepper, and oilseeds) have the potential to become of regional or even international importance. Two of the better-known commodity exchanges are the Bombay Oilseeds and Oils Exchange, founded in 1950, and the International Peppers Futures Exchange, in 1997.

**Australia**, **New Zealand**, **Malaysia** and **Singapore** all have active commodity futures exchanges. The Sydney Futures Exchange (SFE), commenced trading in 1960 as the Sydney Greasy Wool Futures Exchange and by 1964 had become one of the world's leading wool futures markets. It is the largest financial futures exchange in the Oceania region, with an annual turnover of 31 million contracts and was the 12th largest commodity exchange in 2001. The New Zealand Futures Exchange, which is a wholly owned subsidiary of the SFE, is comparatively small and ranked 43rd worldwide in trade volume.

**Malaysia** hosts the Malaysia Derivatives Exchange Berhad (MDEX), which was created by the merger of the Commodity and Monetary Exchange of Malaysia (COMMEX), the Kuala Lumpur Options, and Financial



Futures Exchange (KLOFFE). It traded just under 1 million contracts in 2001 and is the world's 46th largest exchange by trading volume. It also offers the world's sole palm oil futures contracts, which has a brisk turnover. **Singapore** is home to the Singapore Exchange (SGX), formed in 1999 by the merger of two well-established exchanges, the Stock Exchange of Singapore (SES) and Singapore International Monetary Exchange (SIMEX). It traded 31 million contracts and was the world's 14th largest exchange in 2001; it concentrates on financial instruments. A smaller exchange, the Singapore Commodity Exchange, offers rubber futures contracts and (with less success) a robusta coffee futures contract.

In **Indonesia**, the introduction of a commodity exchange has been under discussion since the early 1980s, and the institutional framework has been gradually developed in this respect to pave the way for an emerging market. A commodity exchange trading coffee and palm oil was launched in 2001, and further projects are under discussion.

In the Middle East, a proposed exchange in the **United Arab Emirates** would be internationally-oriented - the launch of an aluminium futures market in Abu Dhabi (the Saadiyat Financial Futures and Options Exchange) - is now under serious consideration.

#### IV. EXCHANGES IN AFRICA

Africa's most active and most important commodity exchange is the JSE Securities Exchange, **South Africa** that took over the South African Futures Exchange (SAFEX) in August 2001. SAFEX was formally established in 1988 and has been responsible for one of the leading emerging commodity markets. For a long time SAFEX only traded financial futures, but the creation of the Agricultural Markets Division in 1995 (formerly, the Agricultural Products Division of the JSE) led to the introduction of a range of agricultural futures and options contracts for commodities. The Agricultural Products Division of the JSE trades futures and options on white and yellow maize, bread milling wheat, sunflower seeds and more recently soya beans. The JSE Securities Exchange traded 34 million futures and option contracts in 2001 (1 million agricultural contracts and 33 million financial contracts - including single stock contracts) making it the world's 13th largest exchange.

Maize contracts have also been traded on new exchanges in **Zambia** and **Zimbabwe**. Farmers established the Zimbabwe Agricultural Commodity Exchange (ZIMACE) in 1994, in response to the gradual liberalization of state-controlled agricultural marketing. The Exchange conducted spot and forward transactions and mostly handled agriculture produce, in particular maize, although the trading volumes of wheat contracts saw a steadily increase. A policy reversal has de facto led to a halt of the exchange's operations. The Zambia Agricultural Commodity Exchange (ACE), founded in 1994, conducts spot and forward transactions in wheat, maize and other agricultural products. The success of ACE led to the development of the Kapiri Commodity exchange in Zambia's central province and the Eastern Agricultural Commodity Exchange, in Zambia's eastern province, both launched in 1997.

The **Kenya** Commodity Exchange (KACE) was set up in Nairobi in 1997, to provide the basic services of a commodity exchange. The products chiefly traded are agricultural, like cereals, dairy products and cotton.

The liberalisation of external marketing of cocoa in **Ghana** may lead to the emergence of a cocoa market, but the form that this exchange would take is not clear and considering the predominance of the LIFFE in futures trade in cocoa, it is likely that contracts for physical delivery and contracts based on warehouse receipts would be traded. In **Egypt**, industry groups wish to revive the Alexandria Cotton Exchange, abolished by the Government in the 1950s. Exchange initiatives in **Nigeria** and **Uganda** are focusing on both domestically traded and exported commodities, while in **Morocco**, private-sector groups have been looking at how domestic trade liberalisation might enable the introduction of a commodity exchange.



Annex I

Rank 2001	Rank 2000	Exchange	Country	1997 Volume	1998 Volume	1999 Volume	2000 Volume	2001 Volume	% Change
1	4	KSE	Korea	7'780'484	50'204'404	97'137'007	213'495'588	854'791'792	+300.38%
2	1	EUREX	Germany	109'287'927	187'263'716	313'955'123	364'833'663	541'614'348	+48.56%
3	3	CME	US	200'714'428	226'618'831	200'737'920	231'114'296	411'712'237	+78.14%
4	4	CBOT	US	242'698'919	281'189'436	254'561'215	233'528'558	260'333'070	+11.48%
5	6	LIFFE	UK	205'129'701	191'086'246	116'438'648	125'569'936	205'022'844	+63.27%
6	5	Paris Bourse	France	78'144'177	60'020'284	118'822'825	147'065'643	149'304'585	+1.52%
7	7	NYMEX	US	83'851'346	95'018'685	109'358'831	104'075'238	103'025'093	-1.01%
8	8	BM&F	Brazil	122'179'393	87'015'050	55'931'098	82'945'277	97'870'685	+17.99%
9	11	CBOE	US	71'212'245	68'358'848	56'269'918	47'440'139	73'974'282	+55.93%
10	9	LME	UK	57'372'500	53'075'081	61'597'557	66'445'247	59'413'250	-10.58%
11	10	TOCOM	Japan	30'178'349	43'589'723	48'442'161	50'851'882	56'538'245	+11.18%
12	12	SFE	Australia	28'409'539	29'927'249	29'793'333	31'299'021	35'845'879	+14.61%
13	17	JSE Securities Exchange	South Africa	11'508'294	16'113'410	18'683'775	22'691'122	33'470'000	+34.28%
14	14	Singapore Exchange	Singapore	24'090'285	27'861'162	25'863'140	27'571'963	30'989'862	+12.40%
15	16	OM Stockholm	Sweden	18'705'657	23'571'944	26'798'506	23'176'697	28'006'742	+20.84%
			Sub Total	1'291'263'244	1'440'914'069	1'534'391'057	1'772'104'270	2'938'912'914	
			Total	1'543'064'206	1'674'129'261	1'737'494'607	2'022'410'893	3'183'426'161	

\* Excluding individual equities

Source: Calculation done on the basis of information published by the Future Industry Association



**Table 1 A**  
**Top 15 World Futures and Options Exchanges**  
**Volume by Calendar Year (Ranked by 2001 Volume\*)**

Rank 2001	Rank 2000	Exchange	Country	1997 Proportion of world Volume	1998 Proportion of world Volume	1999 Proportion of world Volume	2000 Proportion of world Volume	2001 Proportion of world Volume
1	4	KSE	Korea	0.5%	3%	5.6%	10.5%	26.8%
2	1	EUREX	Germany	7%	11.2%	18%	18.2%	17%
3	3	CME	US	13%	13.5%	11.5%	11.4%	12.9%
4	4	CBOT	US	15.7%	16.8%	14.6%	11.5%	8.1%
5	6	LIFFE	UK	13.3%	11.4%	6.7%	6.2%	6.4%
6	5	Paris Bourse	France	5%	3.6%	6.8%	7.2%	4.7%
7	7	NYMEX	US	5.4%	5.7%	6.3%	5.1%	3.2%
8	8	BM&F	Brazil	7.9%	5.2%	3.2%	4.1%	3%
9	11	CBOE	US	4.6%	4%	3.2%	2.3%	2.3%
10	9	LME	UK	3.7%	3.2%	3.5%	3.3%	1.8%
11	10	TOCOM	Japan	1.9%	2.6%	2.8%	2.5%	1.5%
12	12	SFE	Australia	1.8%	1.8%	1.7%	1.5%	1.1%
13	17	JSE Securities Exchange	South Africa	0.7%	0.9%	1%	1.1%	1.06%
14	14	Singapore Exchange	Singapore	1.6%	1.6%	1.5%	1.4%	0.9%
15	16	OM Stockholm	Sweden	1.2%	1.4%	1.5%	1.3%	0.8%
			Sub Total	82%	85%	87%	88%	91%
			Total	100%	100%	100%	100%	100%

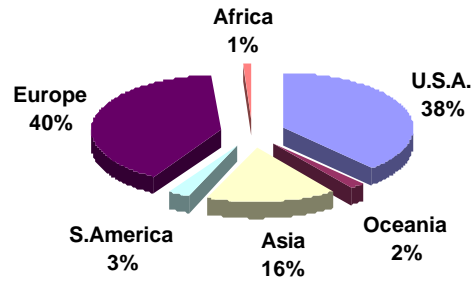
\* Excluding individual equities

Source: Calculation done on the basis of information published by the Future Industry Association

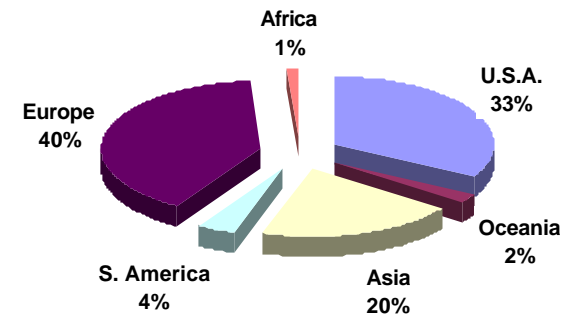


## Annex II Global Futures and Options Volume by Region 1997-2001

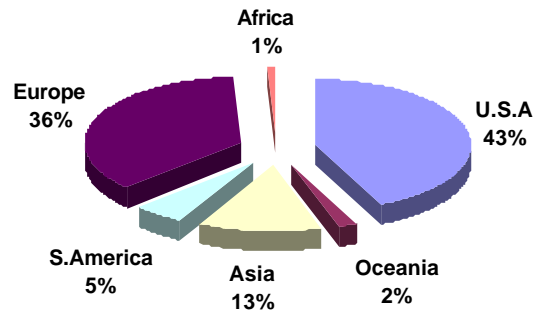
Global Futures and Options Volume by Region 1999



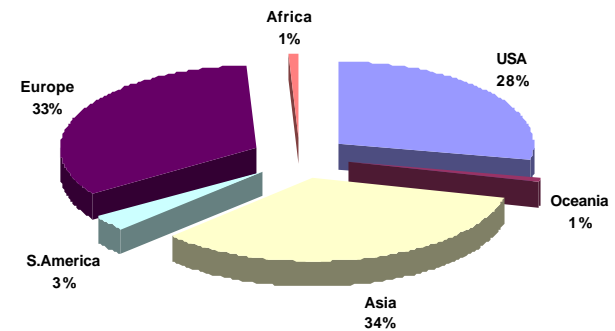
Global Futures and Options By Region 2000



Global Futures and Options Volume By Region 1998



Global Futures and Options by Region 2001



\* Excluding options on individual equities

