

TURNOVER OF FOREIGN EXCHANGE AND DERIVATIVES MARKETS IN HONG KONG

Average daily turnover of the foreign exchange market was US\$78.6 bn in April 1998 down from US\$90.2 bn in April 1995. The over-the-counter (OTC) derivatives market recorded a net average daily turnover of US\$3.8 bn compared to US\$4.2 bn in 1995. The decline in foreign exchange and derivatives market activity was brought about largely by the depreciation of major currencies against the US dollar and a reduction in treasury operations by some institutions partly as a result of the Asian crisis.

Introduction

The Bank for International Settlements (BIS) invited 43 central banks and monetary authorities to participate in a triennial survey of the activities of the foreign exchange and derivatives markets in April 1998. As part of the global effort, the Hong Kong Monetary Authority conducted the survey in Hong Kong. This was the fourth time that Hong Kong had participated in this international survey.

The survey covers spot deals, forward contracts and OTC foreign exchange and interest rate derivatives. As in the 1995 survey, the survey comprised two separate sections, on turnover and on amounts outstanding of foreign exchange and derivatives contracts. Participating countries released the survey results of the turnover section on 29 September 1998. The BIS released the preliminary global turnover results on 19 October 1998. Final reports covering both sections will be published by the BIS in the spring of 1999.

Unlike the 1995 survey, exchange traded instruments were excluded from the 1998 survey as the BIS is collecting this data through a different channel. Comparative figures have been adjusted accordingly to facilitate comparison. There is also a change in the reporting date of the two surveys. The reporting date of the amount outstanding of foreign exchange and derivatives contracts was end-March for 1995 but end-June for 1998. In addition to authorised institutions, a larger number of major securities houses also joined the survey.

Net foreign exchange turnover

In current dollar terms, the net foreign exchange turnover¹ of all participating countries reached US\$1,490 bn in April 1998 (Table 1), representing a growth of 26% over April 1995. Compared with the 45% rise in 1995, the deceleration reflected the appreciation of the US dollar, which led to a corresponding decrease in the dollar value of non-US dollar transactions. Stripping out this currency effect, growth in global turnover actually accelerated from 29% to 46%. The daily turnover of global foreign exchange transactions as a ratio of world trade continued to expand, from 60 times in 1995 to approximately 70 times in 1998 (Chart 1). This was in line with the surge in capital flows brought about by continued financial liberalisation and improvement in financial infrastructure.

The average net daily turnover of Hong Kong's foreign exchange market fell compared to the 1995 survey. Net daily turnover² of foreign exchange transactions dropped by 13% to US\$78.6 bn in April 1998, down from US\$90.2 bn in April 1995. Among the other major centres, Japan and Switzerland also showed a drop in average net daily turnover of foreign exchange. However, adjusting for the depreciation of the yen and the Deutschemark against the US dollar³, the net daily turnover of Hong Kong actually increased by 5%. Apart from the valuation effect, a number of other factors also acted to keep the growth down: the scaling down of treasury operations and surrender of their licences

¹ Unless otherwise stated, all global net turnover figures have been adjusted for double counting of transactions between reporting institutions within the same participating country as well as cross-border transactions between participating countries.

² Net turnover figures are arrived at after adjusting for double counting among the local reporting institutions. Average daily turnover is computed by dividing the turnover reported by the participants by 19, the number of business days in April. Turnover data on a daily basis facilitates comparison with other participants in the survey.

³ Dollar-yen and Dollar-Deutschemark transactions accounted for about half of total foreign exchange turnover in the 1998 survey.

**Table 1: Survey of Foreign Exchange and Derivatives Market Activity
Preliminary Global Data (average daily turnover in billions of USD)**

Country	Foreign Exchange ⁽¹⁾			Derivatives ⁽²⁾			Total		
	Apr-95	Apr-98	% change	Apr-95	Apr-98	% change	Apr-95	Apr-98	% change
United Kingdom	464	637	37%	74	171	131%	538	808	50%
United States	244	351	44%	53	91	71%	298	442	48%
Japan	161	149	-8%	33	42	28%	194	191	-2%
Singapore	105	139	32%	18	11	-38%	124	150	22%
Germany	76	94	24%	14	34	149%	90	129	43%
France	58	72	24%	22	46	105%	80	118	47%
Switzerland	87	82	-6%	4	16	259%	91	98	7%
Hong Kong	90	79	-13%	4	4	-12%	95	82	-13%
Australia	40	47	18%	4	5	21%	43	51	18%
Netherlands	26	41	61%	5	5	2%	31	46	51%
Canada	30	37	23%	5	8	42%	35	44	26%
Italy	23	28	22%	2	4	83%	26	33	27%
Belgium	28	27	-6%	6	6	-8%	34	32	-6%
Denmark	31	27	-10%	4	5	26%	34	32	-6%
Luxembourg	19	22	16%	2	3	18%	21	25	16%
Spain	18	19	5%	4	4	-3%	22	23	4%
Sweden	20	15	-23%	2	4	87%	22	20	-11%
Austria	13	11	-21%	2	5	100%	16	15	-3%
Others	39	95	145%	10	12	21%	48	107	120%
Total "net-gross" Turnover⁽³⁾	1,572	1,971	25%	270	474	76%	1,841	2,445	33%
Estimated Global Turnover⁽⁴⁾	1,190	1,490	26%	196	362	85%	1,386	1,852	34%

⁽¹⁾ Data include spot transactions, outright forwards and foreign exchange swaps."

⁽²⁾ Data include foreign exchange derivatives (currency swaps, OTC options and other OTC products) and single currency interest rate derivatives (forward rate agreements, interest rate swaps, OTC options and other OTC products)."

⁽³⁾ Data adjusted for local double-counting ("net-gross" basis)."

⁽⁴⁾ Data adjusted for cross-border double-counting ("net-net" basis). Estimated global turnover for foreign exchange transactions also includes estimates for less than full coverage within individual reporting countries and for under-reporting of activity involving non-reporting countries."

by some foreign institutions and the effects of the Asian crisis on the risk appetite of financial institutions and on the volume of corporate and customer-driven foreign exchange business.

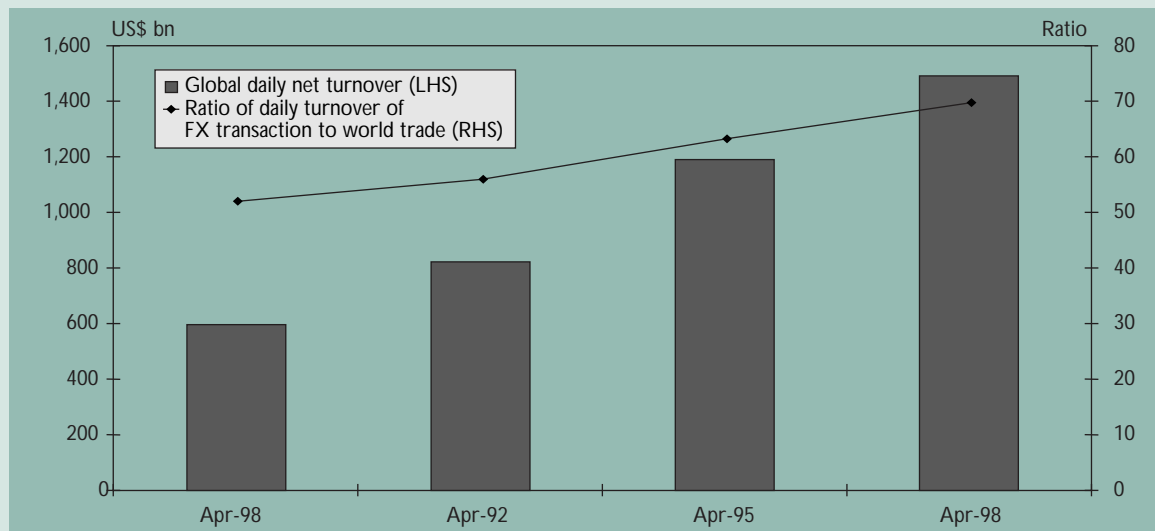
Hong Kong nonetheless remains one of the leading foreign exchange and derivatives centres (Table 1). It has a market share of 4% (1995: 6%) of global foreign exchange turnover after adjusting for local double counting. The gaps in terms of market share of the top 3 largest centres are very

large, with the United Kingdom capturing about 32% of the market, the United States, 18% and Japan 8%. Thereafter, the gaps narrow significantly, with Singapore contributing 7%, Germany 5%, Switzerland 4%, followed by Hong Kong.

Net derivatives turnover

The global turnover of derivatives transactions rose by 85% to US\$362 bn during the three years, with increases in both the foreign exchange

Chart 1
Global Foreign Exchange Daily Turnover



derivatives⁴ and the interest rate derivatives⁵ markets.

Trading of OTC foreign exchange and interest rate derivatives in Hong Kong on the other hand exhibited divergent trends with the net daily turnover of foreign exchange derivatives rising by 92% while that of interest rate derivatives

decreased by 31%. Overall, the net daily turnover of all derivatives fell by 10% from US\$ 4.2 bn in April 1995 to US\$ 3.8 bn in April 1998. The decline is attributable to a reduction in the size of treasury activities of some foreign institutions, caused partly by restructuring and partly by diminishing appetite for risk.

Table 2: Net Turnover in Foreign Exchange Transactions
Instrument Analysis

(US\$ billion)

Instrument	Average daily net turnover in Hong Kong			Average daily net global turnover		
	Apr-95	Apr-98	% change over 1995	Apr-95	Apr-98	% change over 1995
Spot	34.5	31.0	-10.3%	520	590	13.5%
Forward						
- Outright Forward	2.9	3.7	26.7%	n.a.	n.a.	n.a.
- Foreign Exchange Swaps	52.7	43.8	-16.9%	n.a.	n.a.	n.a.
- Subtotal	55.7	47.6	-14.6%	670	900	34.3%
Grand Total	90.2	78.6	-12.9%	1,190	1,490	25.2%

Note: Figures may not add up due to rounding.

⁴ Foreign exchange derivatives include currency swaps, currency options and other OTC foreign exchange derivatives.

⁵ Interest rate derivatives include forward rate agreements, interest rate swaps, OTC interest rate options and other OTC interest rate derivatives.

Type of foreign exchange transactions

Forward⁶ transactions continued to account for a significant share of global foreign exchange transactions, rising to 60% in 1998 from 56% in

1995. Consistent with global trends, turnover of forward instruments in Hong Kong also made up the majority (61%) of total foreign exchange transactions (Table 2, Chart 2).

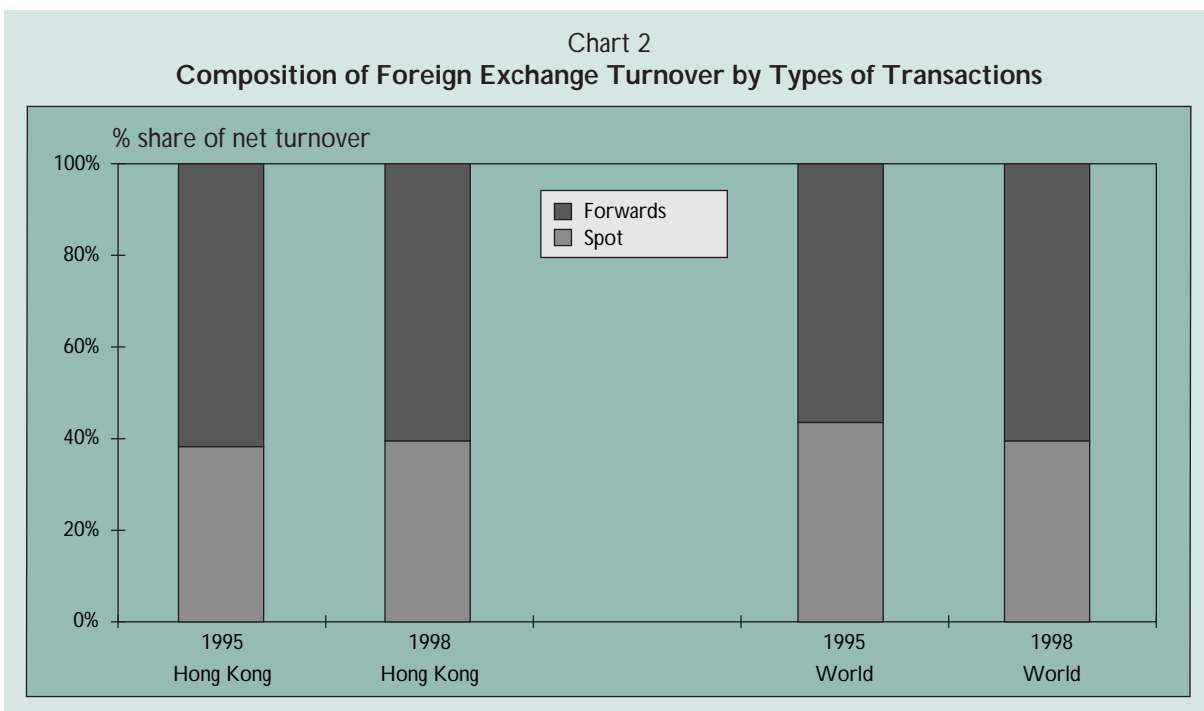


Table 3: Net Turnover in Derivatives Instrument Analysis

(US\$ million)

Instrument	Average daily net turnover			% share	
	Apr-95	Apr-98	% change over 1995	Apr-95	Apr-98
Foreign Exchange Derivatives					
a. Currency swaps	89	351	294.4%	2.1%	9.2%
b. OTC options	625	983	57.4%	14.7%	25.8%
c. Other OTC derivatives	4	43	1086.2%	0.1%	1.1%
d. Subtotal	718	1,378	92.0%	16.9%	36.1%
Interest Rate Derivatives					
e. Forward rate agreements	1,589	404	-74.6%	37.4%	10.6%
f. Interest rate swaps	1,837	1,939	5.6%	43.2%	50.8%
g. OTC options	105	94	-10.8%	2.5%	2.5%
h. Other OTC derivatives	-	1	n.a.	0.0%	0.0%
i. Subtotal	3,531	2,438	-31.0%	83.1%	63.9%
Grand Total	4,248	3,815	-10.2%	100.0%	100.0%

Note: Figures may not add up due to rounding.

⁶ Forward transactions comprise outright forward and foreign exchange swaps transactions.

Foreign exchange swaps dominated the forward transactions in Hong Kong, with a share of 92% while outright forward transactions accounted for 8% of all forward transactions.

Types of derivatives transactions

As in 1995, OTC interest rate derivatives comprise the largest proportion of the derivatives turnover in Hong Kong, with a 64% market share

Chart 3
Average Daily Net Turnover of Foreign Exchange Transactions in Hong Kong by Instruments

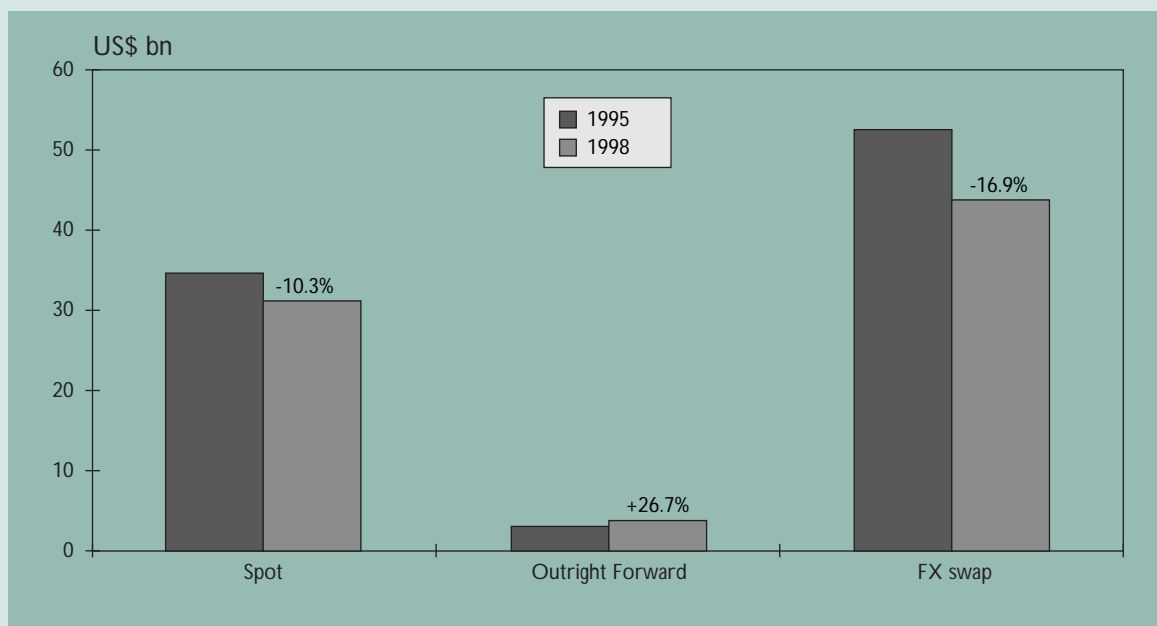


Chart 4
Average Daily Net Turnover of Spot Transactions in Hong Kong by Currency

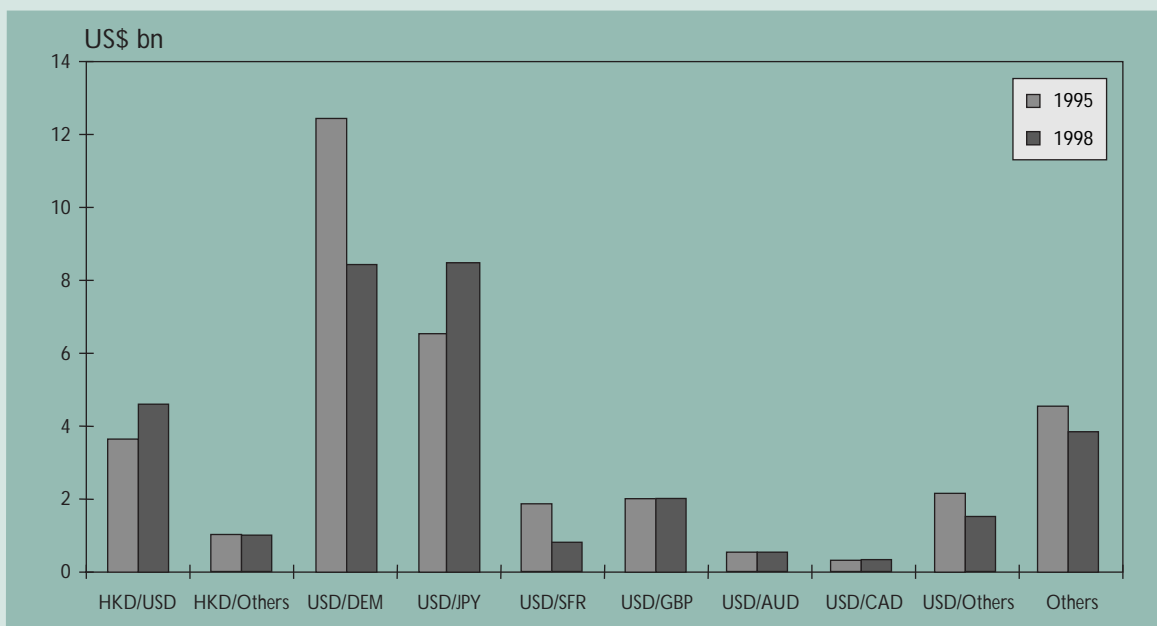


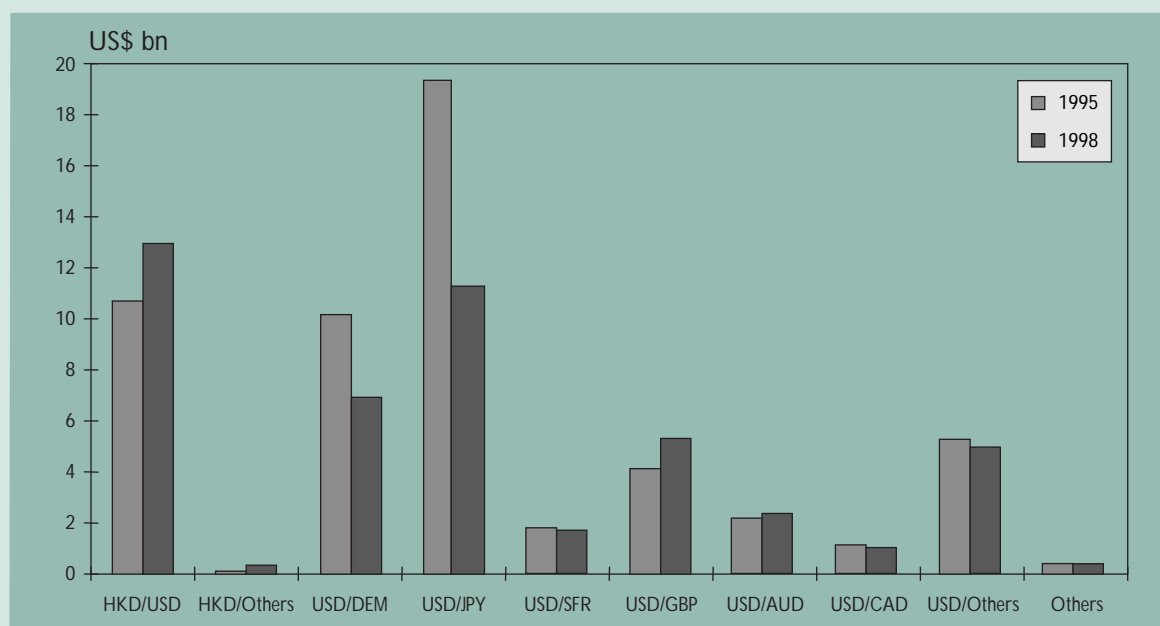
Table 4: Net Turnover in Spot Transactions
Currency Composition

(US\$ million)

Currency	Average daily net turnover			% share	
	Apr-95	Apr-98	% change over 1995	Apr-95	Apr-98
Hong Kong dollar against :					
a. US dollar	3,612	4,516	25.0%	10.5%	14.6%
b. Others	959	921	-4.0%	2.8%	3.0%
c. Subtotal	4,571	5,437	18.9%	13.2%	17.5%
US dollar against :					
d. Deutschemark	12,361	8,411	-32.0%	35.8%	27.1%
e. Japanese yen	6,474	8,431	30.2%	18.8%	27.2%
f. Swiss franc	1,771	735	-58.5%	5.1%	2.4%
g. Pound sterling	1,972	1,945	-1.4%	5.7%	6.3%
h. Australian dollar	478	483	1.1%	1.4%	1.6%
i. Canadian dollar	264	281	6.6%	0.8%	0.9%
j. Malaysian ringgit	487	136	-72.0%	1.4%	0.4%
k. Others (excluding (a))	1,629	1,318	-19.1%	4.7%	4.3%
l. Subtotal	25,437	21,740	-14.5%	73.7%	70.2%
Cross currencies :					
m. Japanese yen/Deutschemark	1,844	1,433	-22.3%	5.3%	4.6%
n. Pound sterling/Deutschemark	968	891	-7.9%	2.8%	2.9%
o. Others	1,706	1,485	-12.9%	4.9%	4.8%
p. Subtotal	4,517	3,808	-15.7%	13.1%	12.3%
Grand Total	34,525	30,985	-10.3%	100.0%	100.0%

Note: Figures may not add up due to rounding.

Chart 5
Average Daily Net Turnover of Forwards in Hong Kong by Currency



**Table 5: Net Turnover in Forwards Transactions
Currency Composition**

(US\$ million)

Currency	Average daily net turnover			% share	
	Apr-95	Apr-98	% change over 1995	Apr-95	Apr-98
Hong Kong dollar against :					
a. US dollar	10,674	12,968	21.5%	19.2%	27.3%
b. Others	60	307	414.4%	0.1%	0.6%
c. Subtotal	10,733	13,275	23.7%	19.3%	27.9%
US dollar against :					
d. Deutschemark	10,193	6,930	-32.0%	18.3%	14.6%
e. Japanese yen	19,394	11,292	-41.8%	34.8%	23.7%
f. Swiss franc	1,848	1,699	-8.1%	3.3%	3.6%
g. Pound sterling	4,162	5,313	27.7%	7.5%	11.2%
h. Australian dollar	2,269	2,430	7.1%	4.1%	5.1%
i. Canadian dollar	1,213	1,097	-9.6%	2.2%	2.3%
j. Malaysian ringgit	771	604	-21.6%	1.4%	1.3%
k. Others (excluding (a))	4,583	4,442	-3.1%	8.2%	9.3%
l. Subtotal	44,432	33,806	-23.9%	79.8%	71.1%
Cross currencies :					
m. Japanese yen/Deutschemark	338	108	-68.0%	0.6%	0.2%
n. Pound sterling/Deutschemark	42	140	232.4%	0.1%	0.3%
o. Others	127	240	88.9%	0.2%	0.5%
p. Subtotal	508	489	-3.7%	0.9%	1.0%
Grand Total	55,673	47,570	-14.6%	100.0%	100.0%

Note: Figures may not add up due to rounding.

compared to 36% in foreign exchange derivatives (Table 3). However, the share of OTC interest rate derivatives fell from the 83% share recorded in 1995, reflecting an increasing use of foreign exchange derivatives, namely OTC options and currency swaps.

Spot foreign exchange deals

Net turnover of spot deals in Hong Kong registered a 10% decline (Chart 3), caused mainly by a 32% reduction in the trading of US dollar against Deutschemark (Table 4, Chart 4). The appreciation of the US dollar reduced the dollar value of these transactions in Deutschemark terms. By contrast, US dollar against Hong Kong dollar and US dollar against Japanese yen experienced robust increases in turnover, of 25% and 30% respectively. The increase

in Hong Kong dollar turnover was due to demand for Hong Kong dollars for business and financial transactions. The increase in Japanese yen trading was bolstered by the surge in yen carry trades driven by the large interest rate differential between US dollar and Japanese yen.

Forward transactions

Net turnover of forward contracts fell by 15%, due largely to a decline in foreign currency swaps (although outright forwards grew by a significant 27%, this was from a small base). The decline was largely apparent in the US dollar against Japanese yen and US dollar against Deutschemark contracts (Table 5 and Chart 5). Such transactions were affected by the convergence of European currencies, the diminishing need to

hedge forward Japanese yen positions given the weakening of the yen at the time of the survey and the scaling down of operations by some foreign authorised institutions which relied heavily on foreign exchange swaps to tap interbank funding.

As in 1995, a majority of all forward transactions in Hong Kong were at short maturities (Chart 6a and Chart 6b). About 70% of gross transactions matured within seven days. Transactions maturing over 1 year accounted for only 1% of all forward transactions. Forward transactions of other major markets such as the United States also consisted largely of short maturities.

Derivatives transactions

All categories of foreign exchange derivatives traded in Hong Kong showed a rise in turnover. For instance, the net daily turnover of currency swaps surged by 294% while OTC currency options rose by 57%. However, as regards interest rate derivatives, turnover of forward rate agreements fell by 75% and OTC interest rate options by 11% (Table 3). This was mainly evident in the trading of interest rate derivatives denominated in Japanese yen. Strategies based on yen interest rates

diminished in the light of historically low levels of interest rates and reduced volatility. The increase of 6% in trading of interest rate swaps however partly reversed the decline in interest rate derivatives turnover. Increase in currency swaps together with a decrease in forward rate agreements was also a phenomenon seen in the other major derivatives markets.

At the global level, compared with 1995, net daily foreign exchange derivatives turnover expanded by about 120% and net daily turnover of interest rate derivatives by 75%.

Currency analysis

Aggregated global figures show that the US dollar maintained its ranking as the most traded currency, accounting for 44% of all foreign exchange transactions in 1998. This compared with 42% in 1995. But the share of both Deutschemmark and Japanese yen fell, from 19% and 12% to 15% and 11% respectively. Adjusting for the exchange rate difference between 1995 and 1998, however, the share of US dollar transactions in fact dropped from 42% to 38%, while Japanese yen rose from 12% to 15%. In Hong Kong, about 70% of all

Chart 6a
Maturity of Forwards in Hong Kong (1995)

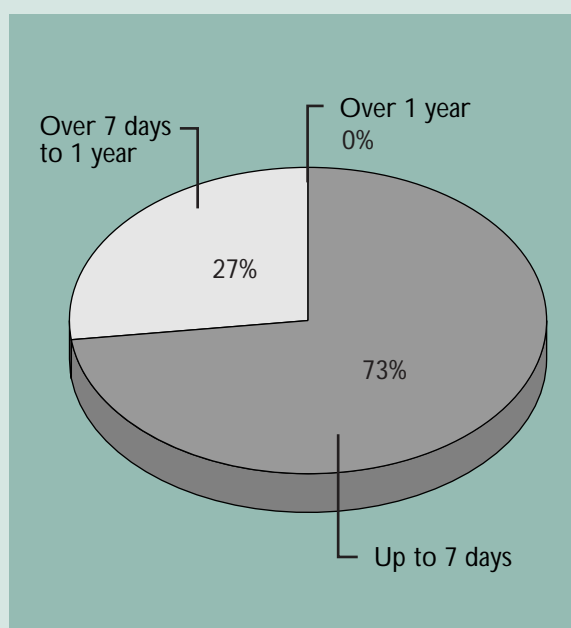
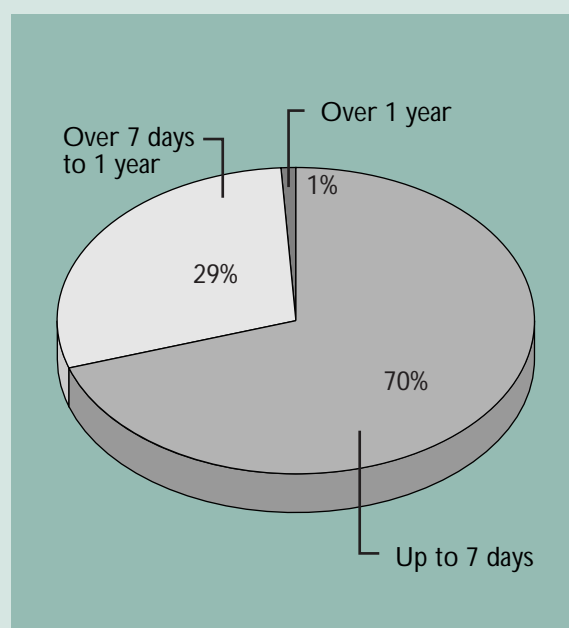


Chart 6b
Maturity of Forwards in Hong Kong (1998)



foreign exchange transactions involved the US dollar (against currencies other than the Hong Kong dollar), compared with 78% in April 1995. This reflects the large share of cross-border transactions and also Hong Kong's role as a major centre for foreign currency trading. Transactions involving the Hong Kong dollar accounted for 24%, rising from 17% in 1995.

Notwithstanding a decline in turnover of 22%, US dollar/Japanese yen continued to be the most heavily traded currency pair in the foreign exchange and foreign exchange derivatives markets of Hong Kong (accounting for 26% of the transactions). Turnover of the US dollar/Hong Kong dollar (22%) has however overtaken US dollar/Deutschemark

(19%) as the second most commonly traded currency pair - due to a 33% drop in net turnover of the latter (Table 6).

US dollar interest rate derivatives continued to be the most heavily traded instrument in the global market. Likewise, the Hong Kong survey showed that transactions were mainly denominated in US dollars in both 1995 and 1998. With a robust increase in gross daily turnover, Hong Kong dollar interest rate derivatives ranked second, and the Japanese yen ranked third. The increasing use of Hong Kong dollar interest rate derivatives was a result of the high volatility in Hong Kong dollar interest rates caused by the Asian financial crisis.

**Table 6: Net Turnover in Foreign Exchange Transactions
Currency Composition**

(US\$ million)

Currency	Average daily net turnover			% share	
	Apr-95	Apr-98	% change over 1995	Apr-95	Apr-98
Hong Kong dollar against :					
a. US dollar	14,286	17,484	22.4%	15.8%	22.3%
b. Others	1,019	1,227	20.4%	1.1%	1.6%
c. Subtotal	15,305	18,711	22.3%	17.0%	23.8%
US dollar against :					
d. Deutschemark	22,554	15,341	-32.0%	25.0%	19.5%
e. Japanese yen	25,868	19,723	-23.8%	28.7%	25.1%
f. Swiss franc	3,619	2,434	-32.7%	4.0%	3.1%
g. Pound sterling	6,135	7,258	18.3%	6.8%	9.2%
h. Australian dollar	2,747	2,912	6.0%	3.0%	3.7%
i. Canadian dollar	1,477	1,378	-6.7%	1.6%	1.8%
j. Malaysian ringgit	1,258	740	-41.1%	1.4%	0.9%
k. Others (excluding (a))	6,212	5,760	-7.3%	6.9%	7.3%
l. Subtotal	69,869	55,546	-20.5%	77.5%	70.7%
Cross currencies :					
m. Japanese yen/Deutschemark	2,182	1,541	-29.4%	2.4%	2.0%
n. Pound sterling/Deutschemark	1,010	1,031	2.1%	1.1%	1.3%
o. Others	1,833	1,725	-5.9%	2.0%	2.2%
p. Subtotal	5,025	4,297	-14.5%	5.6%	5.5%
Grand Total	90,198	78,555	-12.9%	100.0%	100.0%

Note: Figures may not add up due to rounding.

Counterparty analysis

Global cross-border foreign exchange transactions accounted for about 55% of total net foreign exchange turnover in both the 1995 and 1998 surveys. As an international financial centre and with the presence of many international banks, trading with overseas counterparties was higher in Hong Kong as reflected in both the 1995 and 1998 surveys. However, foreign exchange transactions with overseas banks saw a decline from 71% to 69% of the net turnover (Table 7). Transactions with other overseas financial institutions also fell from 3% to 2%, while those with overseas non-financial customers remained unchanged at about 1%.

Trade with local counterparties on the other hand grew from 25% in 1995 to 28% in 1998. Within the foreign exchange deals between local counterparties, 16% was with authorised institutions, 2% with other local financial institutions and 10% with local non-financial customers.

Of all foreign exchange transactions, deals through brokers (including electronic brokers) were virtually unchanged, at 34%, showing that brokers continued to play an important role in foreign exchange business.

For the global market, cross-border transactions represented about 58% of all global foreign exchange derivatives transactions. In Hong Kong, 56% of the foreign exchange derivatives transactions was done with overseas banks. Transactions with other overseas financial institutions accounted for about 8% while non-financial customers accounted for 2%. The share of local counterparties was about 34%.

In the case of interest rate derivatives, cross-border transactions represented about half of total global trading. In Hong Kong, 80% of the daily turnover was conducted with overseas banks, 4% with overseas financial institutions and 2% with overseas non-financial customers. Local counterparties made up the remaining 14% of the turnover.

**Table 7: Net Turnover in Foreign Exchange Transactions
Counterparty Analysis**

(US\$ million)

Counterparty	Average daily net turnover			% share	
	Apr-95	Apr-98	% change over 1995	Apr-95	Apr-98
With AIs and market dealers					
a. Local	13,706	12,902	-5.9%	15.2%	16.4%
b. Overseas	64,057	53,894	-15.9%	71.0%	68.6%
c. Subtotal	77,763	66,796	-14.1%	86.2%	85.0%
With other financial institutions					
d. Local	2,137	1,536	-28.1%	2.4%	2.0%
e. Overseas	2,313	1,441	-37.7%	2.6%	1.8%
f. Subtotal	4,450	2,977	-33.1%	4.9%	3.8%
With non-financial customers					
g. Local	6,985	7,822	12.0%	7.7%	10.0%
h. Overseas	999	959	-4.0%	1.1%	1.2%
i. Subtotal	7,985	8,781	10.0%	8.9%	11.2%
Grand Total	90,198	78,555	-12.9%	100.0%	100.0%

Note: Figures may not add up due to rounding.

Market concentration

As in the 1995 survey, overseas incorporated authorised institutions participating in the survey in Hong Kong contributed to a large share of all foreign exchange and derivatives trades. However, local authorised institutions participating in the survey reported an increase in their share in gross turnover, from 15% in 1995 to 22% in 1998. The share of foreign authorised institutions accordingly fell from 84% to 73% of all foreign exchange and derivatives transactions. Securities houses made up the remaining 5% in 1998 (less than 1% in 1995).

Among other prominent markets like Japan and UK, a considerable proportion of the net daily turnover was concentrated in the top 10 or 20 players. Market concentration in Hong Kong recorded no visible change between 1995 and 1998, with the top 10 players still accounting for about 51% of gross turnover and the top 30 players, 78%.

Conclusion

Foreign exchange and derivatives trading in Hong Kong has been dampened by a number of factors: the depreciation of major currencies against the US dollar, the scaling down of operations by some foreign authorised institutions and the adverse effects of the Asian financial crisis. Nonetheless, the excellent financial infrastructure of Hong Kong, its strategic importance as a regional financial centre and the reduced costs of doing business in the territory will provide a solid base for the further development of its foreign exchange and derivatives markets. ☉

- Prepared by the Banking Policy Division